PRECIS FOR

MEDICAL OFFICERS

from

R.C.A.M.C. TRAINING CENTRE

Ottawa, Ontario.

Regina, Saskatchewan.
February 1st, 1941.

PREFACE

The Royal Canadian Army Medical Training Centre has compiled the Preces contained in this book for two purposes.

Primarily, they are intended as a basis of study for R.C.A.M.C. Officers, preparing for qualification for promotion from Lieutenant to Captain. Practical instruction should be combined with the study of the Preces.

Secondarily, the complete set is intended for use as a reference book on subjects which are of the utmost importance to the Medical Officer, irrespective of work he may be doing.

Most of the material can be found in Army books and pamphlets; but newly appointed Officers have difficulty in obtaining all the necessary books, and also have difficulty in finding required information as they do not understand the systems of reference. In preparation an attempt has been made to combine in a concise form, the essential material appertaining to the Medical Service.

It must be understood that changes occur from time to time, and amendments will become necessary.

It is the sincere wish of the Instructional Cadre of the R.C.A.M.C. Training Centre, that this book will be of definite value, especially in assisting R.C.A.M.C. Officers in preparing for qualification.

OFFICERS' COURSE

1. Drill.
2. Organization and Tactics, R.C.A.M.C.
3. Hygiene and Sanitation.
4. Gas.
5. Map Reading.
6. Military Law.
7. Administration.

R.C.A.M.C TRAINING CENTRE.

MESS RULES.

The establishment of the Officers' Mess and its conduct upon a well-regulated system is an object of the utmost importance, and requires the unremitting attention of all Officers of the Regiment.

It is important that the rules and mess procedure be strictly observed, in order that this part of our Militia Training be not neglected.

1. The Commanding Officer is responsible that all accounts are properly kept and checked and that each member pays his Mess and other bills promptly.

2. Every officer must be a dining member.

3. To direct the Mess establishment, Committee will be selected consisting of three Officers, the President being a Field Officer.

4. A Mess meeting shall be held at regular intervals to receive a duly audited statement of the funds and for the purpose of discussing any proposition that may be brought forward concerning the general management and comfort of the Mess.

5. Although officers meet at mess dinner on a footing of social equality, at the same time, mess is a parade and officers attending thereat are under the same military discipline and under the orders of their seniors, as though they were actually on duty.

6. The senior officer present is always in charge, being responsible for all that takes place at table and in the anti-room, both before and after dinner, and should any individual persist in dis-obeying orders after proper warning he renders himself liable to arrest.

7. Two officers will be detailed, weekly or oftener, to act as President and Vice-President. The President who sits at one end of the dining table is responsible for the correct carrying out of every detail connected with service of the table and has authority to require any officer, irrespective of rank, to desist from irregular behaviour. If such be persisted in, report must then be made to the senior officer present. The Vice-President should in every way assist the President in the execution of his duty and during dinner sits at the opposite end of the table from the President. All servants attending Mess are under the immediate orders of the President and Vice-President.

8. Such officers as may be in the ante-room not properly dressed for dinner hsall leave the ante-room one half hour before time called for dinner. No officer should enter the ante-room improperly dressed. Head dress should not be worn.

9. Both on entering and on leaving the ante-room all officers bow to the senior officer.

10. No officer (unless on the Mess Committee) should on any account enter the Mess room before dinner is announced.

11. On dinner being announced the officers enter the Mess room without regard to the precedence, except that the senior officer enters first.

12. The senior officer present will sit at the centre of the table (the tables to be arranged in one line) right hand side; on a guest night the senior guest sits at the right hand of the senior officer, this being considered the seat of honour.

13. Except as above specified no places are reserved for any officer at table, neither do they sit according to rank. It is customary for the next senior officer to sit opposite the senior on guest night.

14. On entering the Mess, all officers take their places behind their chairs standing, when the Mess President (not the President of the Mess Committee) will request the Chaplain to say Grace. If the Chaplain is not present, another officer will be named by the President who will say Grace in these words, "For what we are about to receive thank God," after which all officers take their seats.

15. Dinner being a parade, no officer should enter the Mess room, after the members have been seated without the permission of the President.

16. No letters or papers should be opened or notes written at table without the leave of the President.

17. The Toast to His Most Gracious Majesty, The King, is the first and most important at any Mess dinner and no misunderstanding as to the correct procedure should mar its dignity and solemnity. At the conclusion of the dinner, the table will be cleared and the wine placed before the President and Vice-President, also before the senior Officer and the officer sitting opposite to him. On a signal from the President, the wine should be passed from right to left, until each set of decanters reach the point from which the other set started. As soon as the wine has made the tour of the table, the President will rise and say, "Mr. Vice, The King!", no one should rise until the Vice-President rises and says, "Gentlemen, The King," then all rise together and stand at attention while the band, if present, plays the first six bars of the National Anthem, then each officer will raise his wine glass in his right hand and say aloud "The King," then take their wine and resume their seats.

18. Officers are permitted to drink the King's health in water or other non-alcoholic beverages.

19. After dinner, smoking at table may be permitted with the consent of the senior officer present, but this should never occur until the health of the King has been drunk.

20. No officer should leave the Mess table at dinner:

    (a) Until the senior officer and any mess guest present have left the table.

    (b) Until the wine has passed around once. If for urgent reasons a member should wish to leave before the wine has passed, he should ask permission of the President.

21. All members shall stand up when the Commanding Officer enters the anti-room to the mess, and shall remain standing until he sits down or tells them to sit down. This does not apply when members are seated at breakfast, luncheon, or supper in the dining room.

22. Controversial subjects such as religion and politics are not to be discussed in the mess.

23. Mess bills must be paid by the seventh of each month, but preferably earlier.

24. In the mess, Field Officers are to be addressed as "Sir", Captains and Lieutenants by their Christian names, or surnames.

25. When tables or chairs in the mess anti-room are misplaced for purposes of games, etc., members are expected to replace them when through.

26. The mess, sergeants quarters, serving pantry and kitchen are out of bounds for all officers except members of mess committee on business.

27. Officers are not to enter anti-room to mess in walking out dress.

28. Mess committee meal hours should be posted on Notice Board.

STRETCHER EXCERCISE

GENERAL REMARKS: The following excercises have been framed for the instruction of stretcher bearers with a view to the careful handling of the wounded and their transport on stretchers and in ambulance vehicles.

When the bearers have become proficient in these excercises on the parade ground, the instructor will take every opportunity of practising them under conditions approaching as nearly as possible to those of field service.

The important point to impress on every man is that in the field he may be No. 1, of the stretcher squad and so be responsible for the wounded man until the latter is brought directly under the care of the medical officer.

In a medical unit the handling of large numbers of stretcher cases should be practised with both two and four bearers, instruction will be given in the loading and unloading of ambulance trains and of motor ambulance convoys at railway stations or at the reception sections of medical units.

Men detailed for stretcher exercises must be well grounded in squad drill. Knee caps will be worn on the left knee at all exercises in which the men are required to kneel. Soldiers acting as "patients" will be provided with ground sheets to protect their clothing. The normal number of men in a stretcher squad will be four. More bearers will only be required when the patient has to be carried for a considerable distance, when the extra bearers will be used to relieve the others.

For instruction the men will be taught the exercises "by numbers" (where so indicated) when sufficiently advanced, the various movements will be done "Judging the time" or working by the right.

FORMATION

SIZING THE BEARERS: Tallest on the right Shortest on the left in single rank..... Size	The whole will break off and arrange themselves to size in single rank, the tallest on the right and the shortest on the left, and take up their dressing by the right.
Number	From right to left
Oddnumbers one pace forward, even numbers one pace step back..March	The odd numbers will take one pace forward and the even numbers step back one pace.
Number one stand fast, Ranks Right and Left..... Turn.	The odd numbers with the exception of number one, will turn to the right the even numbers to the left.

Form Company, Quick .....March.	No.1 will stand fast, the remainder will step off, the even numbers wheeling round to the right and following the left hand man of the odd numbers. No.3 will form up two paces in rear of No.1. No.5, on the left of No.1. No.7 in the rear of No.5. No.9. on the left of No.5. and so on. As the men arrive in their places they will halt, turn to the left and take up their dressing.
Forming the Squads: From the right, at half a pace interval, right Dress	The file on the right will stand fast the remainder of the company will ease off from the right. The correct interval will be obtained by each man of the front rank by placing his right hand on his hip and easing off until the elbow is just clear of the man on his right. He will turn his head and eyes to the right and correct his alignment. The rear rank will conform to the movements of the front rank. They will cover off without placing the hand on the hip.
Eyes.....Front.	All will turn the head and eyes to the front and the right arm will be cut smartly to the side.
Company.....Number	The front rank will number from right to left.

Previous to the parade the stretchers will be laid in a heap on the ground - unless a wagon or other suitable place is available. On the command "fall in" the men will a arrange themselves in two ranks at a place indicated by the instructor.

In this and the following paragraphs the name of the movement is shown in Large Letters in the left hand column, and is followed by the caution or executive word of command in small letters. The right hand column contains the detail. When however, words of command are given by the No.1 of the stretcher squad these are shown in the 2nd. column and the detail in the 3rd. column.

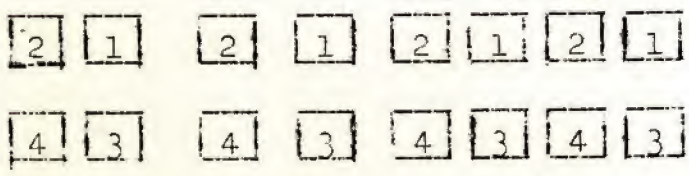
PROVING THE BEARERS
Front Rank...Odd Numbers, Number one bearers, Stand at ...Ease

Even Numbers, Number two Bearers, Stand at...Ease

Rear Rank...Odd Numbers, Number three Bearers Stand at...Ease.

Even Numbers, Number four Bearers, Stand at...Ease

After Proving in this manner the bearers will be called to attention before proceeding with the next movement.



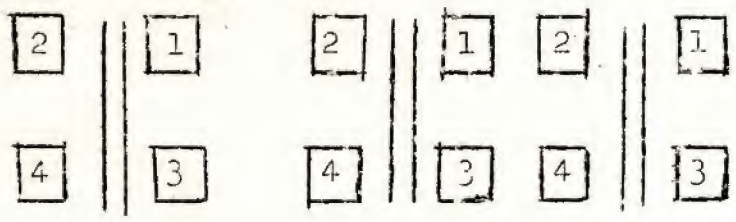
SUPPLYING STRETCHERS
Nos. 2 and 4 bearers in Succession from the right
Supply...Stretchers, Quick...March.

The Nos. 2 and 4 bearers will lead out from the right and march by the shortest route to the stretchers, followed by the Nos. 2 and 4 bearers of the remaining squads in succession. On arriving at the stretchers the bearers stoop, grasp both handles of the stretchers with the right hand and rise, holding them at the full extent of the arm, runners to the right. The No. 2 bearers take the front and the No. 4 bearers the rear handles. The leading bearers will step short to allow for the remainder to obtain stretchers. As soon as the last bearers are supplied with a stretcher they will receive the command: "Quick March" when the whole will break into quick time and rejoin their squads in file in succession, moving in rear of the supernumerary rank. Nos. 3 bearers will then take a pace to the rear and align themselves with the Nos. 4...

LOWERING AND LIFTING STRETCHERS
Lower...Stretchers..

The Nos. 2 and 4 bearers stoop, place the stretcher quietly on the ground, the front ends of the handles in line with the toes of Nos. 1 and 2 bearers, and the runners to the right, they rise smartly together.

Lift...Stretchers	The Nos. 2 and 4 bearers stoop, grasp both handles of the poles with the right hand and rise together holding the stretcher at the full extent of the arm, runners to the right.
ORGANIZING THE COMPANY. By Squads...Number.	The Nos. 1 bearers will be in charge of the squads. The No. 1 bearers will number from right to left.
TELLING OFF SECTIONS No. 2,4,6, etc., Squads	Each section will consist of two stretcher squads. The No. 2 bearers of the squads named will extend the left forearm horizontally.
Left of...Section	The No. 2 bearers will cut the left forearm smartly to the side.
By Sections...Number	The No. 1 bearers of the right half sections will number from right to left. No. 1 section...No. 2 Section, etc.



BEARER FORMATION

The Company is now in readiness for drill or duty. It is called "Bearer Formation" and is of value in the following ways:

1. During exercises if it is desired to reassemble the Company, owing to the dispersal of the squads, etc., it is only necessary to place the right marker (either the instructor himself or No. 1 of the right hand Squad) and give the order: "Bearer Formation on Right Marker...Fall in".

2. When Bearers are constantly employed in the same positions as in companies of Field Ambulances, the company should fall in with stretchers in bearer formation, for duty or exercises.

3. Instructors of all classes are recommended to aim at the above and, when their class is considered efficient in early exercises, to accustom the bearers to remember their positions in the company in bearer formation. Day by day the class can fall in in bearer formation the early drill being dispensed with by the instructor, if he sees fit, and the hour's drill started at any point desired.

DISMISSING

Piling STRETCHERS Lift...Stretchers	As before detailed.
Nos 2 and 4 bearers from the right, pile...Stretchers. Quick....March	The Nos 2 and 4 bearers on the right will lead out in quick time followed by the remaining Nos 2 and 4 bearers in succession. After disposing of their stretchers quietly, the leading bearers will wheel round, step short to enable the remaining bearers to pile their stretchers. As soon as the last stretcher has been piled, they will receive the command "Quick...March" when the whole will break into quick time and rejoin their squads in file in succession, moving in rear of the supernumerary rank.
CLOSING RANKS. Rear Rank, (one pace forward...March	The rear rank will step forward one pace.
Company Right...Dress	The men will take up their dressing by the right and correct their interval and distance as in Infantry training.
	Note: One pace forward only is necessary to form Close Order, since the distance between rank in Bearer Formation is about 3 paces.
Company Stand at...Ease Stand...Easy	As in Infantry Training.
Remove Knee Caps	Remove and collect.
Company...Attention. Dismiss	As in Infantry training.

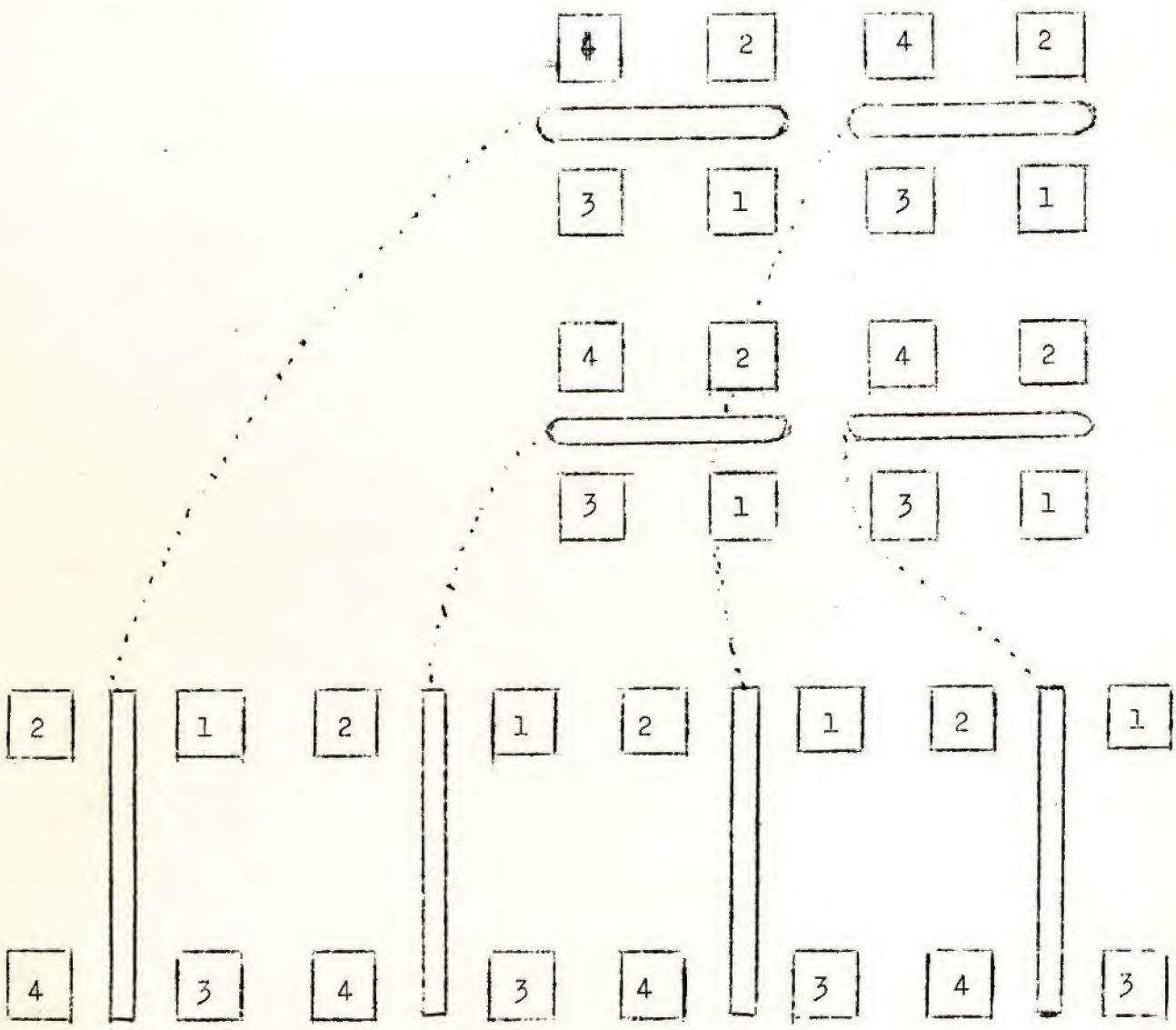
DRILLING WITH CLOSED STRETCHERS

ADVANCING AND RETIRING Lift...Stretchers	As before detailed
By the Right (or Left) Quick....March	As in Infantry Training-except that the arm holding the stretcher will be kept steady at the side.
Company will Retire, About ....Turn	All bearers will turn towards the stretcher, the Nos.2 and 4 bearers taking it in the left hand.
Company will advance, about ....Turn	All bearers will turn towards the stretcher, the Nos 2 and 4 bearers taking it in the right hand.
	Note:-The command "About Turn" should be followed by another similar command before exercises are carried out.
CHANGING DIRECTION. Change Direction, Right (or Left) Right (or Left) ....Form.	The leading bearer on the flank named will make a full turn to the right (or Left); the remainder of the leadin bearers a partial turn in the required direction, the bearers in the rear a partial turn in the opposite directi
Quick March	The leading bearer of the flank named will mark time; the remainder step off and mark time when they come into thei places in the new alignment.
For....Ward.	The whole will move forward in the new direction.
	If the command is "At the Halt Right ...Form"the bearers turn as detailed above. On the command "Quick...March" the leading bearer on the flank named will stand fast, and the remainder will halt and dress as they come into their places in the new alignment.
MOVING TO A FLANK	When it is necessary to move a short distance to either flank the command "Right (or left) Turn" will be given.

(67)

Column of Routs, Sections Right (or Left) Wheel Quick .....March.

: Each section (of two Squads) will wheel to the right (or left) and move off in quick time.



: The Company is now marching in fours one section abreast. A distance of one pace will be maintained between sections. They can change stretchers to the left hands of the Nos. 1 and 3 bearers without increasing their frontage.

CHANGING STRETCHERS
Change....Stretchers.

: Nos. 2 and 4 turn the stretcher with the runners up. The Nos. 1 and 3 bearers grasp the stretcher loosely by the further handle. Nos. 2 and 4 bearers release their hold and the stretcher swings around with the runners to the left.

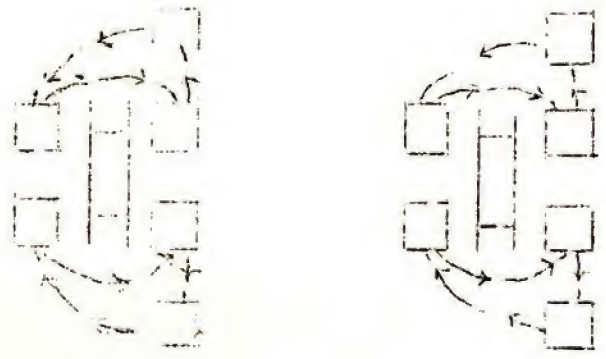
: Note:-When marching 'At Ease' the stretcher may be placed on the inner shoulder, runners downwards, and steadied with either hand. On the command 'March to Attention' the stretcher will be returned to the right hands of Nos. 2 and 4 bearers.

FORMING LINE TO THE FRONT FROM COLUMN OF ROUTE. On the Left Form...Line.	This movement brings the Company into bearer formation. The leading section will lead on four paces and mark time. The remaining sections will left incline, and then right incline when clear of the section in front of them, marking time as they come into alignment.
For...ward	The company will move on in line in the direction which it was originally marching in column of route.
	If the command is "At the Halt" the Left Form...Line" the leading section will lead on four paces and halt. The remaining sections will left incline, and then right incline when clear of the section in front of them, halting and dressing as they reach their places in line.
EXTENDING Extending from the Right (left or any named squad) to four paces...Extend	From Bearer Formation On the march, the named squad will continue to move on in quicktime. The remainder will make a partial turn outwards and double to their places, pick up their dressing by the named squad and break into quick time.
CLOSING On the Right (Left or any named Squad)..Close	The named squad will continue to march on, the remaining squads will make a partial turn towards the named squad double to their positions in "Bearer Formation" and break into quick time.
	When considered necessary "extending and closing" of squads may be carried out from the halt - to the halt; this will be done in quick time and a full turn made instead of a partial turn.

EXERCISES WITH PREPARED STRETCHERS

The preparation of stretchers and all movements with prepared stretchers will be performed in extended order.

PREPARING STRETCHERS. Prepare...Stretchers.	The nos 1 and 3 bearers will take a side pace to the right, the Nos 2 and 4 bearers will then turn to the right, kneel on the left knee, unbuckle the transverse strap, separate the poles, straighten the traverses and sit up with their hands to the side.
Two	They rise and turn to their left, working by the right.
CLOSING STRETCHERS. Close...Stretchers.	The Nos 2 and 4 bearers turn to the right, kneel on the left knee, push in the traveses raise the canvas and approximate the poles. Stand the stretcher on the runners, wrap the canvas round the poles and buckle off. Lay the stretcher on the ground with runners to the right and sit up with their arms to the side.
Two	They rise and turn to the left, working by the right. The nos. 1 and 3 bearers then take a side pace to the left.
CHANGING NUMBERS. Change...Numbers	1. The Nos. 3 and 4 bearers will turn about the Nos. 1 and 3 bearers will then step, out one pace and lead round the end of the stretcher halting when in the position of Nos 2 and 4 bearers who will lead round close to the stretcher into the places of the Nos 1 and 3 bearers. 2. The Nos. 1 and 2 turn about together.
	Note:-The original positions should be resumed before completion of the drill.



SHOULDER CARRYING. On shoulders lift.... Stretchers.	The bearers will turn inwards together, stoop and grasp the stretcher hands wide apart, palms uppermost, and lift it slowly and evenly to the level of the shoulders.
Two	The bearers turn to the front end of the stretcher, supporting the handle of the pole on the inner shoulder, steadying the stretcher with the outer hand.
Advance	All bearers step off together with the inner foot taking short shuffling paces.
Squads....Halt	The whole will halt, care being taken not to jolt or jar the stretcher.
Squads will retire About.....Turn	The bearers will grasp the handle with both hands, lift the stretcher, and turn about, placing the handle on the inner shoulder, steadying the stretcher with the outer hand, and remain steady.
Re.....tire	All bearers step off together as before detailed.

	: Note: In turning about the squad should : first be halted. About Turn should then : be given, followed by advance or Retire : as the case may be. This will ensure : that all bearers step off together.
Lower Stretcher.	: The bearers will turn inwards, supp- : orting the stretcher with both hands, : palms uppermost.
Two	: They will lower the stretcher gently : and evenly to the ground, rise and turn : to the foot end of the stretcher.

HAND CARRIAGE WITH PREPARED STRETCHERS.

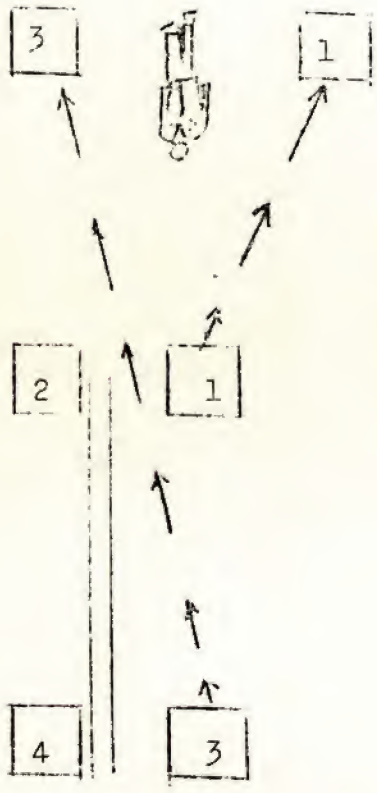
For Hand carriage Stretchers	Lift: the Nos. 2 and 4 bearers take a pace : in between the handles of the stret- : cher, stoop, grasp the handles and : taking the time from the right, rise : slowly together, keeping the stretcher : level throughout the movement.
Lower...Stretcher	: Taking the time from the right, the : Nos. 2 and 4 bearers will stoop, place : the stretcher gently on the ground, rise : smartly together, and side step to their : original positions.
Note:-	: These movements should also be pract- : ised with the Nos. 1 and 3 bearers.

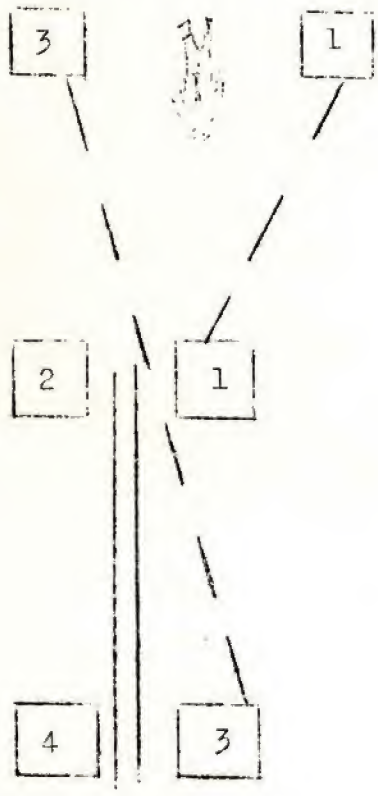
ADVANCING AND RETIRING WITH PREPARED STRETCHERS.

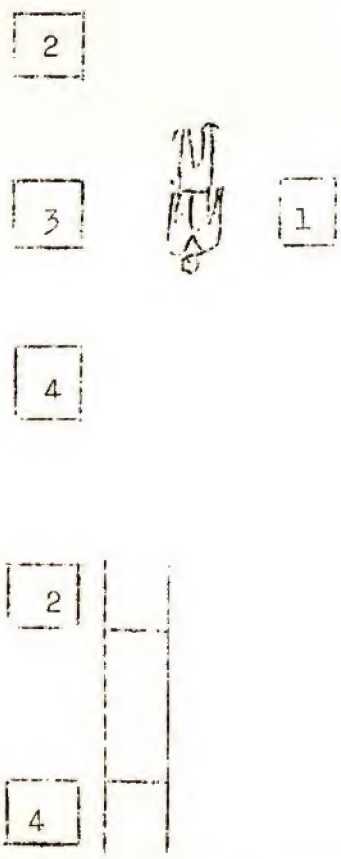
For hand carriage Lift.....Stretchers.	: As before detailed.
Will advance, Ad.....vance.	: The whole move off together, stepping : short, the rear carrying bearer step- : ping off with his right foot, the : remainder of the bearers with the left : foot. Nos. 2 and 4 bearers keeping : their knees bent and raising their feet : as little as possible.
Squads.....Halt.	: The squads will halt.
Squads will retire; About.....turn.	: The stretcher will be lowered to the : ground. Nos. 2 and 4 bearers will rise, : and all will lift the stretcher and : remain steady.

Ad.....vance.	: All bearers step off as before detailed.
	: Note:-These movements should also be practised with the Nos. 1 and 3 bearers. In the case of a long carry, No. 1 bearer as often as he thinks fit can give the word:
Change.....Bearers.	: The squad will halt, lower stretcher. Nos. 2 and 4 bearers retake their permanent positions and Nos. 1 and 3 take a side pace between the handles, "Lift Stretchers" and move on without further word of command.
FORMING FILE Squads Right(or Left) Wheel.	: The squads wheel into file keeping at one pace distance. They can be reformed into line by giving the reverse order.
LOADING STRETCHERS.	: Note: Men to act as patients will be provided with ground sheets and placed in front of the company extended to four paces and laying with their heads towards the Squads. : The Whole company will be in bearer formation or column of route.
Collect...Wounded.	: Each squad doubles by the shortest route to the corresponding patient and halts three paces from the head of the patient, and in line with the patient. No.1 bearer will proceed to the right of the patient in quick time halting at the patient's hips, turn to the left, kneel on the left knee, examine the patient, and if his carriage on a stretcher is necessary will give the commands:-
Lower.....Stretcher. Prepare.....Stretcher	: While the stretcher is being prepared by Nos. 2 and 4 bearers, No. 3 bearer will proceed to the left side of the patient's hips, turn to the left and kneel on the left knee and assist No. 1 bearer. : As soon as the stretcher has been prepared, Nos. 2 and 4 bearers will proceed to the left side of the patient, and No. 4 at the shoulders turn to the right and kneel on the left knee.

(13)
Assuming that the patient is then ready for removal on the stretcher, the bearers will pass their hands beneath the patient; No. 2 supporting the legs, No. 3 assisted by No. 1 the thighs and hips and No. 4 the upper part of the trunk.







	Lift	The patient is carefully lifted on to the knees of Nos 2, 3 and 4 bearers. No. 1 will disengage, rise step back one pace, turn to his left, double to the stretcher and take hold of it, left hand across and resting the near pole on his left hip. He will then return to the patient and place the stretcher directly beneath him, kneel on the left knee and assist in lowering him.
	Lower	The patient is lowered slowly and gently to the stretcher. The bearers then disengage, rise and turn to the foot end of the stretcher. The bearers will then resume their permanent positions Nos. 1 and 2 step forward, No. 4 step back, No. 3 will take a side pace to the left, turn about and proceed round the head end of the stretcher to his place on the right of the stretcher.
Unloading Stretchers.	Unload Stretcher.	1. No.3 bearer will turn about, double round the end of the stretcher, and place himself between Nos. 2 and 4. No. 1 will step back one pace. 2. All bearers turn towards the stretcher, kneel on the left knee and pass their hands beneath the patient as described for loading. No. 1 will then give the word of Command:
	Lift	The patient is lifted on to the knees of Nos. 2, 3, and 4 . No.1 will disengage and grasp the stretcher as described for loading and carry it forward three paces clear of the patient's feet. He then rejoins his squad, kneels and assists in lowering the patient to the ground. The bearers disengage by rising and stepping back one pace, they turn towards the stretcher and step off in quick time to their permanent places at the stretcher.

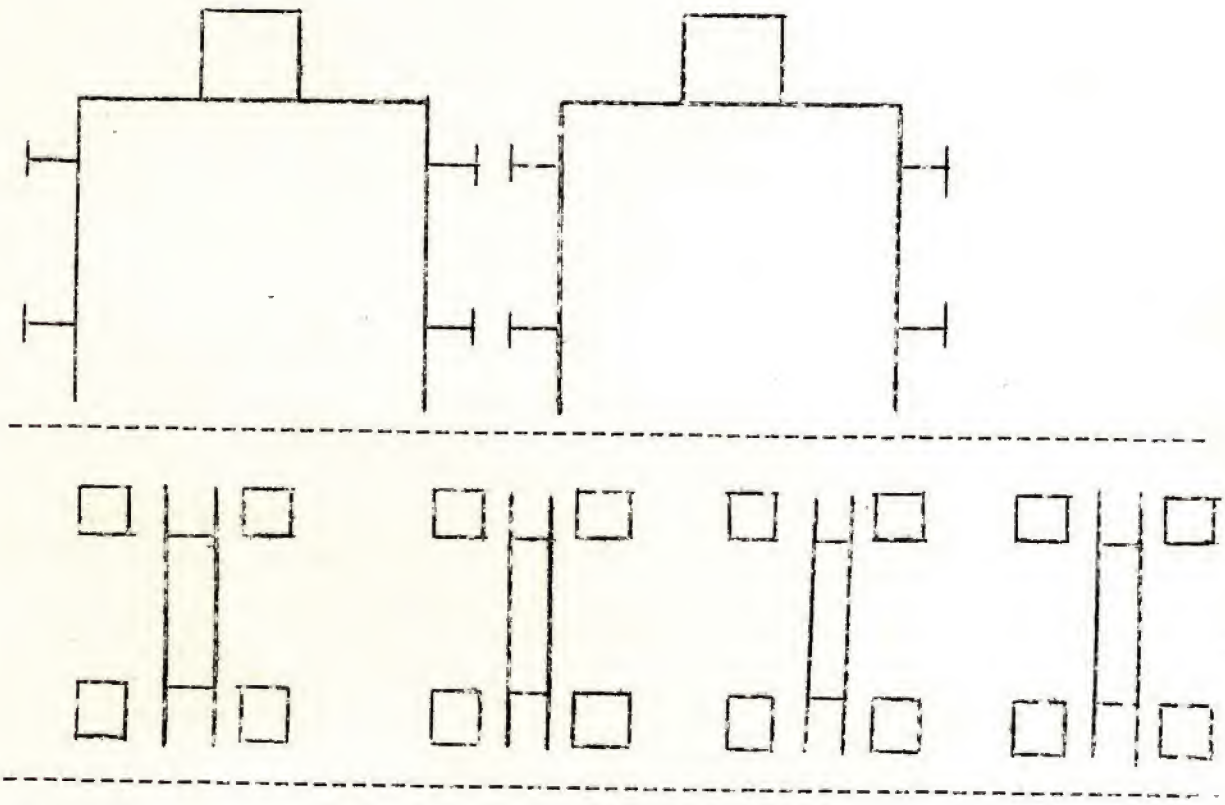
(15)

AMBULANCE CAR EXERCISES

The ambulance cars will be drawn up in line. The class will fall in in "Bearer Formation" ten paces in rear of and facing away from the ambulance cars. The squads will be extended to two paces, the stretchers prepared and the patients will take their places on the stretchers with their heads towards the cars.

The command "About Turn" will now be given.

NOTE: The class is now in position as at the end of retirement.



Squads will load in Succession
Nos. 1,5,9, etc., Squads .....Load.

One man will be told off to each car as Orderly. He will prepare the car for the reception of the wounded. The compartments will be loaded in the following manner:

1 Left (near) Upper
2 Right (off) Upper
3 Left (near) Lower
4 Right (off) Lower

The bearers of the squads named will stoop, grasp a handle of the stretcher with the inner hand, rise and move to the car, holding the stretcher at the full extent of the arm. All bearers step off with the inner foot.

The squads will halt without further word of command one pace from the car. The bearers then turn towards the stretcher grasping it as for "On shoulders lift stretchers" and raise it gently and evenly to the level of the compartment to be loaded. Nos. 3 and 4 will place the runners in the grooves and then assist 1 and 2 to push the stretcher into its place.

The stretcher is now secured by the car orderly, the bearers turn away from the car and place themselves in their original positions. No. 1 bearer gives the following words of command:

Quick March, Halt About...Turn Stand at Ease	They march back to their places in the line of squads.
AMBULANCE UNLOADING AMBULANCE CARS	The company and cars will be in the positions occupied at the completion of loading. The car orderlies will prepare the stretchers for unloading.
	The compartments will be unloaded in the following order:- 1. Right (off) Lower 2. Left (Near) Lower 3. Right (off) Upper 4. Left (Near) Upper
Squads will unload in succession Nos. 4,8,12, etc., Squads.,Unload.	The named squads will lead directly to the compartments to be unloaded, Nos. 3 and 4 opening out, Nos. 1 and 2 pass between them, grasp the handles of the stretcher with both hands. They will withdraw the stretcher, raising the handles slightly in doing so. As soon as the stretcher is sufficiently withdrawn, Nos. 3 and 4 take the further handles, all bearers take the weight, and grasping the stretcher as before, lower it to the full extent of the arms. Now facing away from the ambulance cars the bearers carry the stretchers by the inner hand and stepping off with the inner foot lead back to the position they have just vacated.

Halt Lower..... Stretcher Stand at.....Ease.	The No. 1 Bearer will then give the following words of command:-

HORSED AMBULANCE WAGON EXERCISES

As the construction of a Horsed Ambulance Wagon only permits of a patient being loaded Feet First, the Ambulance wagons will be drawn up in front of the class and the only change will be the alteration of Nos 1 and 2 for Nos 3 and 4 and vice versa in the detail.

MEDICAL ORGANIZATION AND TACTICS

PRECIS NO. 1

The Organization of the Army and Characteristics of the Fighting Arms

Before attempting to specialize in any one branch of the Service one should have a good general knowledge of the army as a whole, its organization, its duties, and how it goes about carrying out these duties. This knowledge of the other fellow's job will enable us to fit in our medical plans to suit the situation.

1. Organization of an Army for War

Due to the varying conditions under which the British Army is liable to serve, the organization is planned to suit the average rather than the exceptional condition.

The general principles of War Organization must ensure:-

(1) Elasticity
(11) Unity of Effort
(111) Decentralization of control
(1V) Economy of Forces

The Army in the Field is divided into two Categories:-

(1) The Fighting Troops
(11) The Services

The fighting troops carry out the actual operations, while the services are organized to maintain them while they are carrying out their tasks.

The fighting troops consist of :-

Calvalry
Artillery
Engineers
Infantry
Signals
Tanks and Armoured Cars
Air Force

The Services consist of:-

(1) Under the G.S. Branch
Survey

(11) Under the A.G. Branch
Chaplain
Graves
Medical
Pay
Provost

(iii) Under the Q.M.C. Branch

Labour
Hiring
Postal
Printing
Remount
Supply and Transport
Canteen
Transportation
Veterinary
Works
Engineers' Stores

(iv) Under the M.G.O. Branch

Ordnance.

2. The Division

The Division is the basis of the Army in the field. It is a self-contained fighting unit complete with the necessary services to maintain in action the various fighting troops it contains. The present organization is:

(a) Divisional Headquarters.
(b) Three Infantry Brigades.
(c) Divisional Troops.

(a) Divisional Headquarters

Divisional Commander.
The Staff.
Heads of Services.
Subordinate Staff.

(b) Infantry Brigade

Brigade Headquarters
Brigadier
Brigade Major
Staff Captain
Intelligence Officer
Transport Officer
R.C.O.C. Officer
Subordinate Staff

(c) Divisional Troops

Divisional Cavalry Regiment
Divisional Artillery
Divisional Engineers
Divisional Signals
Divisional Army Service Corps
Divisional Army Medical Corps
Police and Postal Services

3. Characteristics of the Fighting Arms

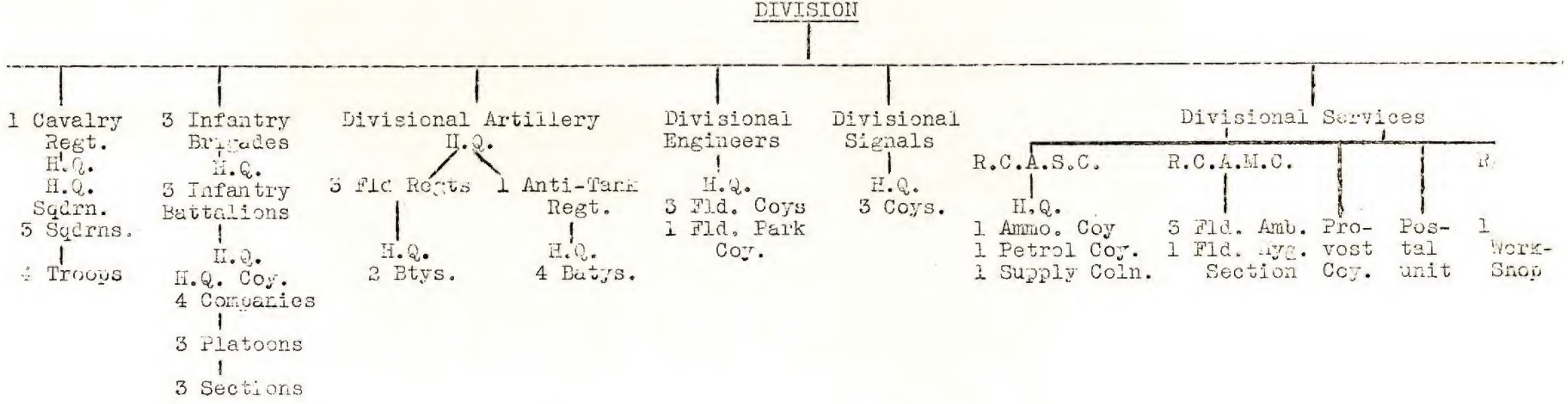
(a) Tanks

Advantages

1. Mobility. 2. Protection of Crews. 3. Fire power while on the move. 4. Can cross very rough ground. 5. Less vulnerable to air and gas attacks.

Disadvantages

1. Vulnerable to Artillery fire and to fire of Anti-tank weapons. 2. Stopped by soft or wooded ground. 3. Speed reduced up hill. 4. Appearance and noise warns of approach. 5. When closed down the crew's field of view is limited. 6. They cause great strain on the crew. 7. Cannot consolidate ground won.


DIVISION
1 Cavalry Regt.
H.Q.
H.Q. Sqdrn.
5 Sqdrns.
4 Troops
3 Infantry Brigades
H.Q.
3 Infantry Battalions
H.Q.
H.Q. Coy.
4 Companies
3 Platoons
3 Sections
Divisional Artillery
H.Q.
3 Fld Regts
H.Q.
2 Btys.
1 Anti-Tank Regt.
H.Q.
4 Btys.
Divisional Engineers
H.Q.
3 Fld. Coys
1 Fld. Park Coy.
Divisional Signals
H.Q.
3 Coys.
Divisional Services
R.C.A.S.C.
H.Q.
1 Ammo. Coy
1 Petrol Coy.
1 Supply Coln.
R.C.A.M.C.
3 Fld. Amb.
1 Fld. Hyg. Section
Pro-vost Coy.
Pos-tal unit
1 Work-Shop

3. Armament

Machine Guns, Light Cannon and Howitzers.

Uses

Light tanks suitable for reconnaisance with protection. Have wireless for inter-communication. Tanks may be used to support Infantry action. Medium and Heavy Tanks are weapons of assault.

(b) Armoured Cars

Advantages

1. Great speed. 2. Silence of operation.
3. Protection of crews.

Disadvantages

Easily stopped by obstacles and bad ground.

Uses

Long distance reconnaisance.
Mobile escort for Convoys and other Protective work.

(c) Cavalry (Non-mechanized)

Advantages

More mobile than infantry.
Can cross any kind of ground.
Great power of dispersion.

Disadvantages

Where ground is suitable are not as mobile as armoured troops.
More vulnerable than armoured troops.
In dismounted action, they lose ¼ of their strength.
Difficult to conceal.

Armanent

Rifle and light automatic for dismounted action.
Sword for mounted attack.

Uses

1. Reconnaissance. 2. Protection. 3. Mobile reserve.
4. Inter-communication. 5. Dismounted sections as Infantry.

(d) Infantry

Advantages

Can close with enemy and consolidate vantage points.
Most adaptable and generally useful arm of the service.
Can operate night or day over any type of ground.
Can easily take cover.

(d) Infantry - Contd.

Disadvantages

Movement slow and range limited.
Extremely vulnerable.

Armament

Rifles, light automatics, bayonet, grenades (some of which contain smoke), machine guns, mortars, and anti-tank weapons.

Uses

The final consolidation of positions.
The immediate protection of points of vantage.

(e) Artillery

Advantages

Unlike other arms, Artillery is not fully committed once it engages the enemy. Without change of position it can engage widely separated targets at great range. Command may be centralized to a greater degree than any other arm.

Disadvantages

Difficulty in observation of fire. Supply of Ammunition Exhaustion of men or breakdown of vehicles due to weight of gun. Time required to lay guns on a target.

Armament

Guns, Howitzers, or Gun Howitzers.
Guns have a high muzzle velocity and a low trajectory. Howitzers have a low muzzle velocity and a high trajectory Field Artillery is used in close support of the Infantry. Medium and Heavy Artillery work at varying distances behind the front line. The projectiles are either High Explosive or Smoke.

(f) Engineers

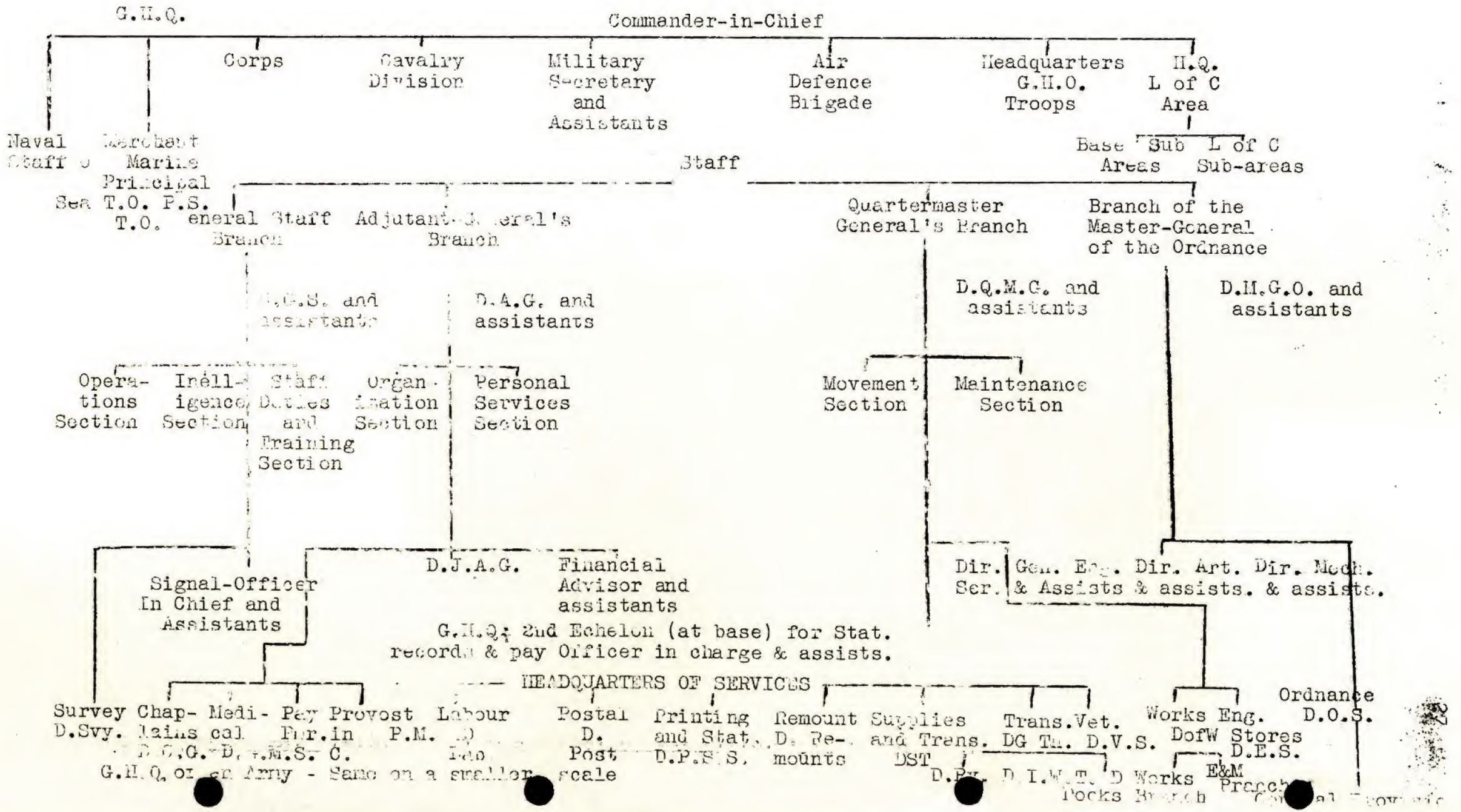
The Engineers are used for technical field work for which they alone have the special training. This includes bridging, demolitions, Anti-tank obstacles, emplacements, special defensive works, development of water supplies, construction and maintenance of roads and railways, survey work. It does not include the simpler field works which are the responsibility of each individual unit. Rapid engineer work requires early reconnaissance and so an Engineer detachment usually accompanies the most advanced troops.

(g) Signals

The sole function of the signals is to provide communication in the field down to the headquarters of units. Inter-communication within the unit is the responsibility of the unit signallers and orderlies.

(h) Aircraft

Army co-operation Squadrons of the Air Force are attached to the Army. These units provide aerial reconnaisance, photography, and artillery observation.


G.H.Q.
Commander-in-Chief
Corps
Cavalry Division
Military Secretary and Assistants
Air Defence Brigade
Headquarters G.H.Q. Troops
H.Q. L of C Area
Naval Staff
Merchant Marine
Principal Sea T.O.
P.S. T.O.
Staff
Base Areas
Sub L of C Sub-areas
General Staff Branch
Adjutant-General's Branch
Quartermaster General's Branch
Branch of the Master-General of the Ordnance
D.A.G. and assistants
D.Q.M.G. and assistants
D.M.G.O. and assistants
Operations Section
Intelligence Section
Staff Duties and Training Section
Organisation Section
Personal Services Section
Movement Section
Maintenance Section
Signal-Officer In Chief and Assistants
D.J.A.G.
Financial Advisor and assistants
Dir. Ser.
Gen. Eng. & Assists
Dir. Art. & assists.
Dir. Mech. & assists.
G.H.Q. 2nd Echelon (at base) for Stat. records & pay Officer in charge & assists.
HEADQUARTERS OF SERVICES
Survey D.Svy.
Chaplains D.C.G.
Medical D.M.S.
Pay & Record Office
Provost P.M.
Labour
Postal D. Post
Printing and Stat. D.P.S.S.
Remount D. Remounts
Supplies and Trans. DST
Trans. DG Tn.
Vet. D.V.S.
Works Eng. & DofW
Ordnance Stores D.E.S.
D.O.S.
D.Pr.
D.I.W.T.
D Works Docks Branch
E&M Branch
Canadian Provost
G.H.Q. of an Army - Same on a smaller scale

H.Q. of a Corps

Divisions

Staff

General Staff Branch

A.G.'s, Q.M.G's and M.G.O's Branches

Operations Section

Intelligence Section

Chief Engineer

Chief Signal Officer

Services

Survey A.D. Svy.

Chaplains D.A.C.G.

Medical D.D.M.S.

Provost A.P.M.

Post D.A.D. Post

Supp. and Trans. A.D.S.T.

Veterinary A.D.V.S.

Ordn A.D.

Corps Troops

H.Q. Corps Artillery C.C.R.A.

H.Q. Corps Troops Engineers

Eng. Units

Corps Fd. Sur. Coy. R. E.

Corps Signals

Tanks

Field Cash Office

Corps RCAMC.

Provost Coy.

Corps Postal Unit.

H.Q.C.T. R.A.S.C.

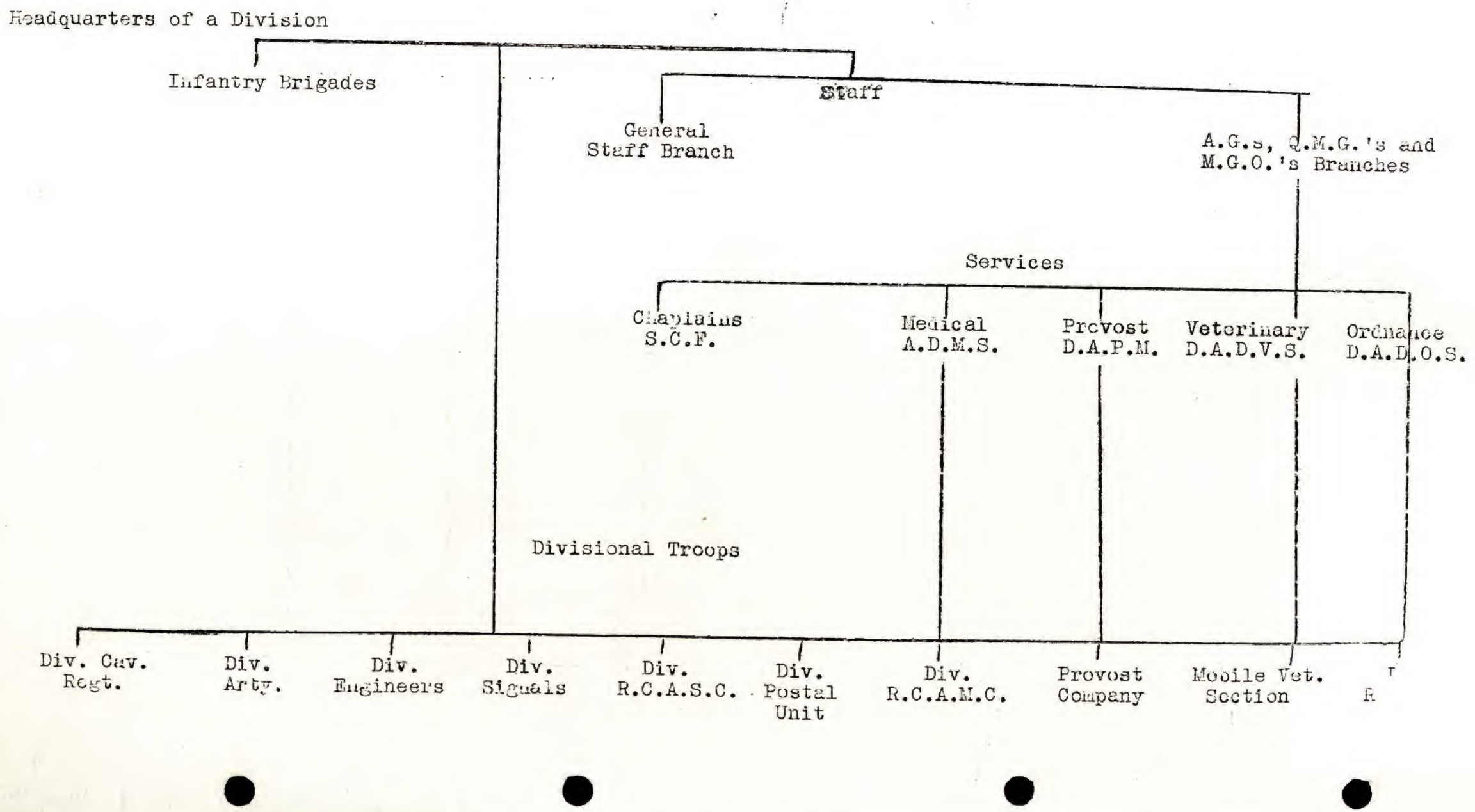
Cor Ord

H.Q. Co.Med.Arty. C.C.M.A.

Corps Survey Coy. R.A.

Army Field Brigades

Med and H. Brigades


Headquarters of a Division
Infantry Brigades
Staff
General Staff Branch
A.G.s, Q.M.G.'s and M.G.O.'s Branches
Services
Chaplains S.C.F.
Medical A.D.M.S.
Provost D.A.P.M.
Veterinary D.A.D.V.S.
Ordnance D.A.D.O.S.
Divisional Troops
Div. Cav. Regt.
Div. Arty.
Div. Engineers
Div. Signals
Div. R.C.A.S.C.
Div. Postal Unit
Div. R.C.A.M.C.
Provost Company
Mobile Vet. Section

MEDICAL ORGANIZATION AND TACTICS
PRECIS NO. 2.

The Organization of the Medical Services in the Field.

1. Duties of the Medical Service.

The Medical Service is organized for the purpose of maintaining the health of the Army so that it can fight more efficiently. Thus it is responsible for:-

(a) The medical examination of all recruits.
(b) The preservation of health by the application of Hygiene and Sanitation.
(c) The professional care of the sick and wounded until they have recovered or have been evacuated.
(d) The collection and evacuation of the sick and wounded from the theatre of operations.
(e) The maintenance at all times of a full complement of medical supplies.
(f) The keeping of medical records.
(g) The making of recommendations in all matters that can, in any way, affect the health of the troops.

2. Units and Formation of the Medical Service.

(a) Regimental Establishments.

(i) Medical Officer provided by the R.C.A.M.C.
(ii) 1 N.C.O. orderly.
(iii) 1 Batman.
(iv) 1 Driver.
(v) 1 N.C.O. and 20 men to act as stretcher bearers.
(vi) 4 men--Sanitary detail on H.Q. & 1 man each company trained.
(vii) 4 men--Water detail 2 H.Q. & the 2 drivers, water tank provided by the unit itself.
(viii) In addition a Chiropodist is authorized for dismounted units having a strength of over 100 men.

Transport.

M.O. Rides in a light van with supplies.
Wounded are transported by means of Stretchers.

(b) Cavalry Field Ambulance

	Officers	Other Ranks	Attached.
Headquarters	4	80	49
4 Sections	4	28	12
Totals	8	108	61

Grand Total 177

Transport for wounded
Motor Ambulances - 12(in addition to stretchers.

(c) Cavalry Division Field Hygiene Section.

Officers	1
Other Ranks	28
Total	29
Attached	
R.C.A.S.C.	8
Total	37

(Medical Organization Cont'd)

(d) Field Ambulance
(For 150 patients, but not limited to this number)

	Officers	Other Ranks	Attached
Headquarters	6	59	41
A Coy.	3	53	8
B Coy.	3	53	8
	12	165	57

Grand Total 234

Transport for Wounded
8 Motor Ambulances (in addition to Stretchers)

(e) Field Hygiene Section

Officers	1
Other Ranks	23
Total	24
Attached	
RCASC	5
Total	29

(f) Motor Ambulance Convoy

	Medical Wing RCAMC			Transport Wing RCASC		
	Officers	Or's	Total	Officers	Or's	Total
Headquarters	2	7	9	3	52	55
3 Sections (each Total RCAMC30	-	7	21	1	42	129
						184

Total RCASC

Grand Total 214
Transport for wounded- 75 Motor Ambulances

(g) Casualty Clearing Station
(200 sick and wounded; 50 in beds, 150 on stretchers)

Officers	8		
Other Ranks	77	(X-Ray Technicians may be added)	2
Total	85		
Attached	13		
	98		

(h) Mobile Laboratories

Officers	2
Other Ranks	2
Total	4
Attached	3
Total	7

(i) Advanced Depot Medical Stores

Officers	1
Other Ranks	7
Total	8
Attached	1
Total	9

(j) Ambulance Train (360 lying cases)

Officers	3
Nursing Sisters	3
Other ranks	45
Total	51

(k) General Hospital

(i) (For 1200 beds, including 120 beds for officers)

	Officers	Nursing Sisters	Other Ranks	Attached	Total
Headquarters	3		112	12	127
Medical & Surgical Divisions	28	80	109	-	217

Grand Total 344

(ii) (For 600 beds including 60 beds for Officers)

	Officers	Nursing Sisters	Other Ranks	Attached	Total
Headquarters	3	-	73	8	84
Medical & Surgical Divisions	16	50	67	-	133

Grand Total 217

(l) Convalescent Depot
(2000 Convalescents)

	Officers	Other Ranks	Attached	Total
Headquarters	2	5	58	65
2 sections	2	-	56	58

Grand Total 123 (9 Inf. O's included in Attd.)

(m) Base Depot Medical Stores

Officers	2
Other Ranks	20
Total	22

(n) Hospital Ship
(Capacity 500 cases)

Officers	Other Ranks	Nursing Sisters	Attached
5	60	14	4

Total 83

3. Distribution of Medical Units

(a) Collecting Zone

Regimental Medical Establishments
Field Ambulances
Field Hygiene Sections

(b) Evacuating Zone

Motor Ambulance Convoys
Casualty Clearing Stations
Advance Depot Medical Stores

(c) Distributing Zone

Ambulance Trains
General Hospitals
Convalescent Depots
Base Depot Medical Stores
Hospital Ships

4.Medical Commanders in the Field.

Unit or Area Concerned.	Representative of Medical Services.
G.H.Q.	D.G.M.S.
G.H.Q. Army.	D.M.S.
Corps H. Q.	D.D.M.S.
Divisional H.Q.	A.D.M.S.
Unit	R.M.O.
Base Sub Area.	A.D.M.S.
L of C. Sub Area.	A.D.M.S.

NOTE: Each Medical Representative has his own staff of deputies and clerks to assist him.

Units (Cont'd)

(k) Mobile Bath Unit

1 Officer.
1 Private Sanitary Assistant R.C.A.M.C.
4 R.C.A.S.C.
14 Other Ranks.

MEDICAL ORGANIZATION AND TACTICS
PRECIS No.3.

The Medical Arrangements in a Battalion.

1. Organization.

(1 Medical Officer (From the R.C.A.M.C.)
(1 Sgt.
(1 Driver & 1 Batman.
(20 Men, Stretcher Bearers & 2 N.C.O.'s.
(4 Men H.Q. Co., Sanitary Detail,
and 1 part time, each. Co.
Water Detail (2 men H.Q. Co.) Drivers of 2 Tank Cars.

In addition, a Chiropodist is authorized for each dismounted Unit of over 100 men.

Note: The Regimental Stretcher Bearers do not wear a Red Cross Brassard, but one marked with the letter "S.B." as they are not part of a Medical Unit and so cannot claim the protection of the Geneva Convention.

2. Transport.

Light motor van (for technical equipment)

(a) Field Medical Equipment
2 bottles, water, medical
1 case, water-testing, poison.
2 cases, water-testing, sterilization
1 companions, medical
1 haversack, surgical
24 haversacks, shell dressing
1 pannier, regimental medical
1 pannier, medical comfort
3 splints, arm, Thomas
3 splints, knee, Thomas.

Notes: A comparatively small amount of dressings are contained in the above equipment because the majority of cases will be dressed either with the First Field Dressing or the shell dressing.
In the event of heavy casualties being expected, it will be advisable for the R.M.O. to draw extra dressings from the Field Ambulance.
Medical Supplies are replenished from the nearest Field Ambulance.
First Field Dressings are an Ordnance issue and are obtained from Ordnance by the Unit Quartermaster.

(b) Ordnance Equipment

Batteries, dry.....2
Bottles, tin, methylated
Spirit, 1½ pint.....1
Blankets.....as required
Directing Flags and Lamps..as required
Bulbs, 3.5. volt.....1
Cans, oil, 5½ pints.....1

(Arrangements in the Battalion Cont'd)

Cork screws.....2
Kettle, enameled, 2 quarts.....1
Knives, opening tins.....2
Knife, table.....1
Lamps, acetylene.....1
Lamps, acetylene, box.....1
Lamps, Hurricane.....1
Measures, tin, ½ gal.....1
" " 1 gal.....1
" " ½ pint.....1
" " 1 pint.....1
Panniers, G.S.....1
" Medical Comforts.....1
Pannikins, 1 pint.....6
Sauce Pans, 3½ quarts.....1
Scissors, pairs.....12
Stretchers,.....12

Note: Ordnance equipment is obtained on indent through the unit Quartermaster from the nearest Ordnance Depot.

(c) Army Service Corps Supplies

Certain expendable stores consisting of food, fuel, and disinfectants are drawn from the Army Service Corps on indent through the Unit Quartermaster.

4. Duties of Officers in Medical Charge of Troops.

1. At Home

(a) Having received orders from the D.M.O. posting him to a Unit, he presents himself to the O.C. of that Unit, stating: (Capt...RCAMC reporting to---------- Unit, for duty, by order of----------)

(b) He is usually attached to that Unit for all purposes (Discipline, pay, rations, quarters). While this posting places him under the command of the O.C. Unit purposes, he remains subject to the D.M.O., in that he is an Officer temporarily attached and for technical Medical Instruction.

(c) By letter he will inform the D.M.O: the date, and time of his reporting for duty, and supply him his postal address and his telephone number.

(d) He is the expert adviser of the O.C. on all medical questions. His advice at all times is only in the form of a recommendation. His recommendations may include remarks on such diverse subjects as Sanitary arrangements, Duties of the Men, Food and Water Supplies, or Equipment and Clothing.

(e) MEDICAL: 1. By arrangement with the O.C. he will establish a Medical Inspection Room, and hold a daily sick parade, at such an hour, that those attending that parade, who are fit to do Unit training, need not be late for "Fall In."

2. The ORDERLY CORPORAL will parade the sick to the M.I.R., with Morning Sick Reports, (M.F.B. 292) with all columns filled in for each one attending with the exceptions of the columns, DIAGNOSIS and REMARKS. And the signature of the M.O.

3.He will visit in quarters those too ill to attend Sick Parade.

4.The M.O. will enter under Diagnosis only terms in accordance with NOMENCLATURE OF DISEASE temprarily MORBIDITY TABLES.

5.The M.O. will enter under REMARKS one of the following:-

Admitted to ----------Hospital
M & D
Attend A. ----------Fit for all duties.
Attend B. ----------Light duties.
Attend C. ----------Excused all duties.
Detained ----------Not over 24 hours.
Excused wearing some article of apparel e.g. Service Boots.
Duty.

N.B. Company Commanders will require to be informed the meaning of Attend A.B.&C. and exactly what duties those marked Attend B are fit to do.

6.The completed and signed M.F.B.292 is distributed;
Original --- The Orderly Corp. returns this to his Company.
2nd.Copy -- The D.M.O.
3rd.Copy -- Retained by M.O.

7. The M.O. will satisfy himself that all those joining the Unit are fit.

8. The M.O. will inspect the men under his charge monthly and satisfy himself as to their health, and that the maintenance of their personal hygiene has been attended to. (This will include V.D. Inspection.)

9. For those in the Unit under his care, who the M.O. considers to have become unfit, after obtaining the permission of his O.C., he will arrange through the D.M.O. to have Medically Boarded.

10. The M.O. will satisfy himself that all ranks have been Vaccinated recently, have had three injections of T.A.B. within three years, and have had two injections of Tetanus Toxiod.
Where the above has not been complied with he will perform the necessary inoculations to complete.

Vaccinate:-
Give T.A.B. in 3 doses of o.25 C.C., 0.5 C.C.,1 C.C. at 7 days interval.
Give Tetanus Toxiod 1 C.C., repeated in 6 weeks.
Should T.A.B. have been given within 3 years o.5 C.C. will be given.

11. Serious Illness, serious Accidants, the outbreak of Infectious Disease or Death out of Hospital will be immediately notified to his O.C. and to the D.M.O.

12.The M.O. is responsible to see that Medical entries on M.F.M. 1 or M.F.M. 2 are completed and signed on page 3.

Medical Classification.
Re-Examined.
Medical Board M.F.B.227 & Category.T.A.B.
Tetanus Toxiod.
Ischari where applicable.
on page 4--Admissions to Hospital.

13. The M.O. is responsible th t the Pay Book M.F.M. 1 is filled in regarding:-

Medical Classification
Prescription for Glasses.
Particulars of Dentures supplied.
Particulars of Surgical appliances Issued.
Protective Inoculations.

(f) Hygiene & Sanitation:- He is the Medical Health Officer of the Unit and as such should accompany the O.C. on his rounds of the camp,of Barracks, every portion will be inspected at least once a month.

(g) Inspection of Food:- He will examine from time to time the quality of articles of Food and Drink used by the troops and will ascertain whether the cooking is satisfactory and sufficiently varried.

(h) Training:- He is responsible for training
S.B.S. and Reserve Bearers.
(First Aid should be stressed)
Water Duty Personnel.
Chiropodist.

(i) He is responsible for Instructing all Ranks of his Unit on:-

1.Elementary Hygiene and Sanitation.
2.Venereal Disease and its prevention.

(j) Obtaining Technical Medical equipment on indent through D.M.O. and for its replenishment when expended.

(k) Seeing that the Q.M. obtains Ordnance equipment for the Medical Section of the Btln. by Indent on Ordnance.

(l) Before leaving the Unit Area -- If on duty,the Orderly Room will be notified.
If not on duty — Permission will be obtained.

In the Field.

Most of Duties at Home applies except that he is administered by the A.D.M.S. of his Division instead of the D.M.O. When his Unit is in fighting formation he establishes an R.A.P. when it is at rest a Medical Inspection Room.

(Arrangements in the Battalion contd.)

7. Information required by a R.M.O.

(a) Intention of the Unit Commander.

(b) Information as to the progress of the battle.

(c) Positions of the following:

(i) Advance Dressing Station.

(ii) H.Q. Field Ambulance.

(iii) Unit H.Q.

MEDICAL ORGANIZATION AND TACTICS
PRECIS NO. 4.
The Field Ambulance

1. Organization

A Field Ambulance is a mobile medical Unit, whose primary duty is to collect the sick and wounded from the R.A.P. and to arrange for their subsequent evacuation. It is equipped only to provide simplest treatment.

Normally Field Ambulances are mobilized on the basis of 3 per Division, and 1 per Corps.

The normal capacity is for 150 patients, but it is not limited to this number.

PERSONNEL OF A MECHANIZED FIELD AMBULANCE

H.Q.	4	Offcrs.	2	W.O.,	6	Sgts & S/Sgts.	51	others	63
H.Q. Attached	2	"	1	W.O.,	1	"	39	"	43
2 Companies	6	"			6	"	100	"	112
Attd. to Coys.							16		16
									234

Total R.C.A.M.C.	175	
Total attached	59	
1st reinforcements	7	(left at Base)
	241	

Personnel Headquarters

1 Lt. Col
2 Majors, Captains or Subs.
1 Quartermaster.
1 Major or junior Dental O.
1 Transport O. Lieut.
1 R.S.M.
1 Q.M.S.

EACH COMPANY

3 Majors, Capt, or Subs.

1 S/Sgt.

	Sgt.	Cpl.	Pte.	Sgt.	Cpl.	Pte.
Carpenter			1			
Clerks	1		1		1	1
Dispensers	2					
or	1	1				
Hosp. Cooks	1		1		1	1
Nursing Orderlies	2	1	13	1	1	4
Nursing Orderlies for duties as:						
Batmen			3			
Barber			1			
Cook			1			
Gen. Duties			6			
Pack Stores		1				
Sanitary						1
Steward Stores		1	1			
S.B.'s			6	1	1	34&(2L/Cpls
Wagon Orderlies			12			2
Water Duties			1			1

Batmen for H.Q. are 3 R.C.A.M.C. men and 4 batmen-drivers R.C.A.S.C. for O.C. 2 Offs. Q.M., D.O., T.C., R.S.M.

For the Coys. by 2 batmen-drivers R.C.A.S.C.

(2)

A FIELD AMBULANCE COMPANY:

Three Officers.

One	S/Sgt.	
Two	Sgts.	Nursing Stretchers Bearer
Four Cpls.		Clerk Cook Nursing Stretcher Bearer
Two L/Cpls.		Stretcher Bearer
Ptes.	1	Clerk
	1	Cook
	4	Nursing Orderlies
	1	Sanitary
	34	Stretcher Bearers
	2	Wagon Orderlies
	1	Water Duties

Attached R.C.A.S.C.

One Cpl.	1 for the two seat car-
Six Drivers	1 for the four seat car-
One Despatch Rider	4 for the 30 cwt Lorries
	1 for the Motor Cycle-

Total;- 3 Officers, 53 Other Ranks, 8 Attached.

At-	H.Q.'s - A.D.S.	Bearer Section,;
	1 Staff Sgt.	one Sgt.
	1 Sgt.	Two L/Cpls.
	1 Cpl. Nursing	One Cpl.
	2 Ptes. W.O.	34 Stretchers Bearers
	1 Cpl. Cook	
	1 Pte. Cook	
	1 Cpl. Clerk	
	1 Pte. Clerk	
	1 Pte. Sanitary	
	1 Pte. Water Duties	

Transport,-
One Motorcycle, One two-seater car, One four-seater car, four 30 CWT. Lorries.

FIELD AMBULANCE - MECHANIZED

Attached to H.Q.

1 Dental O.	1 Sgt. Cpl, or pte. Clerk Orderly	Batman supplied by fld. Amb.

1 Chaplain (if alloted) who would have with him 1 Batman and one Motorcycle.

(3)

Attached Transport - R.C.A.S.C.

1 Subaltern R.C.A.S.C.	1 2-seater car
1 Warrant Officer	1 Motorcycle
1 Sgt.	1 Motorcycle
2 Cpls.	
1 Electrician	
3 Fitters, one a Cpl. and one a L/Cpl.	
31 Drivers 1.c. 1st line Transport	
Drivers include 2 L/Cpls.	
4 Batmen - Drivers - 1 Motorcycle	
1 Motorcylist	
2 Drivers 1.c. 2 nd Line Transport	

2. Transport	H.Q.	Each Coy.	Total
Motorcycles	1 Transport S.M. 1 " Sgt. 1 Despatch Rider	1	5
2-seater 4 wheeled	1 H.Q. Officers 1 H.Q. Officers 1 T.O.	1	5
4-seater 4 wheeled	1 H.Q. Officer	1	3
Lorries, 30 cwt. 4 wheeled G.S. Tech. Stores and Equip.	3	3	
Officers' Mess	1		
Artificers' Tools and repairs	1		
Cooks, cookers, water in tins	1	1	
Baggage & Blankets	1		15
Lorries 3 ton 4 wheeled G.S.	3 Pool - capable of carrying in one left half the personnel not already carried in M.T.		3
Van 12 cwt. 4 wheeled	1 For Dental Officer & Equip.		1
Ambulances 6 wheeled	8		8
Trailers 15 cwt. water tank	3 Drawn by 3 ton Lorries - for allot to companies as required.		
2 nd Line Transport Vans 12 cwt.	2 One in each echelon of supply column		2
			42

3 Trailers

3. Duties of the Field Ambulance

(a) To collect the sick and wounded from the R.A.P.'s, and to arrange for their further disposal.
(b) To establish the Advance Dressing Station (A.D.S.) the Main Dressing Station (M.D.S.), the Walking Wounded Collecting Post (W.W.C.P.) and the Divisional Rest Station (D.R.S.)
(c) To provide temporary treatment prior to further evacuation; or permanent treatment, if time and the case permit, at the Divisional Rest Station.

(4)

(The Field Ambulance Contd.)

(d) To provide trained Medical Officers for Regimental Medical details.

(e) To keep certain Medical records.

(f) To keep its stores replenished.

(g) To do anything else in the division for which provision has not been made, but which requires the knowledge of trained medical personnel.

4. The Advanced Dressing Station

General

This is usually selected by the A.D.M.S., where time permits, but the O.C. of the Ambulance undoubtedly is given certain latitude in the final selection. All Units are notified of this site. The location should be as far forward as conditions will permit. It should be beyound the range of rifle fire, and behind the usual targets of enemy Field Artillery. It will usually be somewhere between 1 to 3 miles behind the front line. If this distance is too far for a bearer squad to carry, it may be necessary to establish relay posts between the R.A.P. and the A.D.S. It should be near a road in a place easily accessible to wheeled traffic. Avoid any place likely to become an Artillery target. A nearby water supply is necessary.

Construction

The construction should provide the following:-

(i) Shelter from the weather

(ii) Protection from enemy action
(iii) There should be a seperate entrance and exit to avoid congestion. Passages should be wide enough to permit the transit of a loaded stretcher.
(iv) There must be sufficient accommodation for all wounded awaiting evacuation.

(v) Separate accommodation for gas casualties must be provided.

(vi) Existing buildings, especially if they have cellars, can be adapted rapidly by the aid of sand bags. Assistance may be obtained from the Engineers. A few narrow trenches should be provided for the protection of personnel and patients in case of shelling.

Duties

(i) Collection of the wounded from the R.A.P. and their retention until such time as they are evacuated to the M.D.S.

(ii) Urgent treatment is carried out, such as the treatment of shock, the renewal of dressings, the adjusting of splints, and the treatment of haemorrhage.

(iii) An exchange dump of stretchers and blankets is formed.

Personnel

The personnel forming an Advance Dressing Station are either from A or B Company

Officers	3
Other Ranks	53
Attached	8

1 N.C.O. and 36 privates are employed as stretcher bearers.

15 N.C.O.'s and men remain to act as clerks, dressers, cooks, etc.

Equipment

Some of the main items of equipment at an A.D.S. include:

Serum A.T. (1000unit phials)	20
Bottles, Water, Medical	13
Companions, Medical	1
Haversacks, Shell Dressing	9
Panniers Field Ambulance (pairs)	1
Splints, Knee, Thomas	7
Blankets	50
Sheets, ground	1
Kettle, Camp	1
Lamp, operating	1
Lamp, acetylene	1
Flags, directing	8
Panniers, Medical Comforts	2
Stretchers	12
Trestles, collapsible	1
Suits, pyjama	25
Warmers, stomach	5
Stoves, oil	3

Dressings may be augmented from the equipment held by the H.Q. of the Field Ambulance.

5. The Main Dressing Station

General

The Headquarters of a Field Ambulance holds the more elaborate medical and surgical equipment of the unit, and the bulk of the Ordnance equipment, and therefore is capable of forming the Main Dressing Station. Although there are 3 Field Ambulances in a Division, it does not necessarily follow that 3 Main Dressing Stations will be formed within the Divisional area. In fact usually one M.D.S. will be sufficient for a whole division. Where the Division is spread out, more stations will be opened as the situation requires.

Site

The site for Main Dressing Station is chosen by the A.D.M.S so as to fit in with the plan as a whole. It is from 3 - 5 miles back of the front line, and in very mobile warfare this distance may be exceeded. It must be near a good road, but should not be near anything that may be an object of Artillery fire.

Construction

In the construction of a M.D.S. it should be remembered that a good deal of accommodation is required, even though only for a short periods. In the case of an advance, the C.C.S. may take over the site formerly occupied by the M.D.S. Buildings such as a school or church are usually suitable for this post, In addition to shelter, water, heat, and light, there is usually a large yard in which ambulances can manouvre, When time permits, the buildings should be made bomb-proof. In event of buildings not being available, the Field Ambulance has 1 operating and 8 other tents.

Personnel

The personnel of the H.Q. of the Field Ambulance who form the M.D.S. include:

Officers	4
Other ranks	59
Attached	45

Among the attached personnel are 1 Dental Officer, and 1 R.C.A.S.C.Officer. There are only 6 Stretcher Bearers at the M.D.S.

Equipment

Among the principle articles of equipment at the M.D.S. Are the following:

Bottles, Water, Medical	8
Boxes, Reserve Dressing	4
Companions, Medical	1
Haversacks, Surgical	12
Haversacks, Shell Dressing	9
Panniers, Field Ambulance, prs	1
Panniers, Reserve Medical	1
Splints, Knee, Thomas	16
Tables, Operating	1
Oxygen apparatus, Haldane's	4
Cylinders, Oxygen & Carbon Dioxide	4
Serum. A.T. (1000 unit phials)	300
Lamps operating	1
Trestles, collapsible	2
Flags Directing	4
Flags, Distinguishing	1
Lamps, Acetylene, Small	2
Tents, Hospital	8
Tents, Operating	1
Stretchers	24
Blankets	150
Sheets, ground	100
Warmers, Stomach	26
Suits, pyjamas	50
Panniers, G.S. Field	14
Panniers, Medical Comfort	2
Outfits, Field Dental	1
Dressings	
Bandages	76
Bandages	120
Gauze, yards	1125
Wool, ounces	1068

(The Field Ambulance Contd)

Organization

The organization of a M.D.S. should include arrangements for:

(i) Receiving Section - Here the waiting cases are given food and warmth. An Officer is in charge and he will sort out the cases into those that require urgent treatment, those who can wait, and those requiring no treatment.

(ii) Recording Section - Here the details from the Field Medical Card (AFW 3118) are entered in the A.& D. book.

(iii) Resuscitation Section - Provides immediate treatment for patients in shock.

(iv) Dressing Section Dressings, urgent surgical treatment and the administration of drugs and A.T.S. is carried out here.

(v) Gas Section - Here all gassed casualties are segregated.

(vi) Evacuation Section - here wounded are classified after their treatment and await evacuation.

(vii) Pack Store - For patients' kits.

(viii) Mortuary

(ix) Exchange Dump - For exchange of stretchers, blankets, splints, and hot water bottles, with the ambulances bringing cases from the A.D.S., and for the reception of these articles from the M.A.C.

(x) Living accomodation for the staff.

(xi) Cook House, Latrines, etc.

(xii) Offices.

(xiii) Quartermasters Stores.

Duties

(i) The M.D.S., by reason of its' better equipment and greater distance from the front line, is able to afford more satisfactory accommodation and treatment generally than can the A.D.S.

(ii) Operations of an urgent nature can be performed, and better arrangements for resuscitation of those suffering from shock or haemorrhage, can be made.

(iii) Records are kept of all cases passing through this station.

(iv) Anti-Tetanic serum is given to all cases.

(v) Cases are prepared for evacuation to the C.C.S. or to the Divisional Rest Station.

6. The walking Wounded Collecting Post.

General

When a large number of casualties are anticipated in order to avoid congestion at the M.D.S., it is often advisable to form a Corps or Divisional W.W.C.P. to deal with the less serious cases.

These cases may be sent to it from the A.D.S., or even direct from units at the front, as may be found most convenient in the circumstances. The number organized will depend on the number of casualties. If the casualties are light, a W.W.C.P. may not be necessary. If, however, large numbers are expected, one per Division should be organized, or on a narrow front one per Corps.

Site

The site is chosen within walking distance of the front. It will seldom be much further back than the A.D.S. It must be easily accessible from the front line and the A.D.S. and on a route the walking wounded are likely to take. It should be close to a road leading to the C.C.S. so that transport can reach it. It should not be on the same road as the A.D.S. to prevent congestion during the evacuation of casualties from both posts.

Construction

Little elaborate construction is necessary except to make it splinterproof. Any building with large rooms is satisfactory. Routes to the post should be well marked. Shelter for between 300 to 500 men awaiting evacuation should be provided.

Personnel

The staff of the W.W.C.P. is detailed by the D.D.M.S. or A.D.M.S. It usually consists of one company of a reserve Field Ambulance.

Equipment.

There is no scale of equipment for this post. If formed by a Field Ambulance Company, this company will take with it its usually supply. Otherwise equipment will be issued as required.

Methods of Evacuation

Evacuation of this Post is carried out by vehicles supplied by the "Q" branch. The 3-ton lorries of the Field Ambulance may be utilized also. Because some of the walkers may become stretcher cases, one or two ambulances will be necessary.

Organization

The post should be divided into the following sections:

(i) Reception section.

(ii) Recording Section.

(iii) Dressing Section.

(iv) Evacuating Section.

(v) Administrative Section.

Duties.

(i) The reception of walking wounded cases; their temporary treatment, and retention until arrangements are completed for their evacuation.

(ii) The recording of all casualties that pass through this post

(iii) The administration of A.T.S.

7. Rest Stations.

When the military situation permits, Rest Stations may be formed by Corps or Divisional Field Ambulance close behind the front, for the reception of men suffering from minor disabilities, but not requiring anything beyond simple medical Treatment.

Here a soldier is freed from the strain and exposure of fighting but still remains under divisional control.

They also relieve the C.C.S. of many trivial medical and surgical cases which might have to be evacuated to the base to keep the C.C.S. clear.

8. The Cavalry Field Ambulance.

The Cavalry Field Ambulance is a smaller unit than the Field Ambulance and serves a smaller formation. Its' distinguishing feature is its greater mobility to enable it to keep up with the cavalry. It is entirely mechanized and consists of a H.Q. and 4 sections. The H.Q. is equipped to form a M.D.S. Each section is capable of forming a collecting post similar to an A.D.S. Two Cavalry Field Ambulances are mobilized per Cavalry Division.

	Officers	Other Ranks	Attached	Total
H.Q.	4	80	49	
4 sections	4	28	12	177

Transport.

Motor Ambulances, 6 wheeled	12
Motor Lorries, 6 wheeled	13
Motorcycles	6
Trailers, Kitchen, 2 wheeled	1
Trailers, Water Tank, 2 wheeled	1

Equipment.
The equipment includes:

Bottles, Medical, Water	17
Boxes, Reserve Dressing	7
Companions, Medical	5
Haversacks, Surgical	12
Panniers, Field Medical, No. 1	1
Panniers, Field Surgical, Prs	1
Panniers, Field Fracture	1
Panniers, Regimental Medical	4
Splints, Thomas, Knee	32
Stretchers	48
Blankets	200
Sheets, ground	90
Warmers, Stomach	64
Tent Operating	1
Wheeled Stretchers	2

The total equipment only weighs 4 tons 10 cwt. as compared to the Field Ambulance equipment weighing 21 tons, 2 cwt.

Duties.

As a rule, the H.Q. of the Cavalry Field Ambulance remains with "B" echelon of the Brigade and operates a M.D.S. The necessary sections are sent forward to keep in contact with the units. The duties of the H.Q. and sections are similar to that of the H.Q. and Companies of the Field Ambulance.

MEDICAL ORGANIZATION AND TACTICS

PRECIS NO. 5

The Casualty Clearing Station

General:

One C.C.S. is mobilized per Division of the force. It is however not a part of the Division but is part of Army troops, or in a small force it will be part of G.H.Q. troops. In other words, the D.D.M.S. of the Corps or the A.D.M.S. of the Division have no say in the working of this formation unless definitely placed under command of these officers for special reasons.

Site

The following points govern the choice of the site:-

(1) The average distance behind the front is 10-12 miles. However, the C.C.S.'s are usually grouped and echeloned so that the above figures varie widely.
(2) A.C.C.S. will not be located nearer than 1000 yards to any large railway junction, viaduct, depot, park, or dump.
(3) It will be at least 500 yards from a main railway line or main waterway.
(4) It should be connected by light railway or tram line to an Ambulance siding on the main railway line: or it should have its' own railway siding.
(5) There should be a good road for incoming and outgoing Motor Ambulance Transport.
(6) Large Modern schools, or similar institutions, form ideal sites for the C.C.S.
(7) If necessary the C.C.S. may be established in tents outside a town.

Construction

The following points are of importance in the construction:-
(1) An approach road off the main highway is essential
(2) The railway or tram line should be in rear to ensure that traffic only goes one way.
(3) The Office, Stores, and exchange dump, should be at the front and to one side.
(4) The Reception Section should be at the front on the other side.
(5) TheEvacuation Section should be at the rear.
(6) Bomb proofing should be carried out.
(7) Room for sudden expansion is a necessity.

Personnel

The capacity of a C.C.S. is stated to be 200, of which 50 are accommodated in beds, and 150 on stretchers. This figure will usually be exceeded. However, a C.C.S. cannot deal with a sudden influx of more than 200 patients at a time.

On receiving this number, it should be closed and another C.C.S. take over the casualties until such time as the first group of casualties have been dealt with. The strength of the C.C.S. is only 8 Officers and 77 other ranks and 8 Nursing Sisters from the R.C.A.M.C., and there are 10 attached personnel. Therefore in times of stress, this organization must be reinforced. This is done by adding "Surgical Teams" from the General Hospitals. Such a team consists of:

Surgeons	1
Anaesthetist	1
Theatre Sister	1
Theatre Orderlies	1
Stretcher Bearers	4
Batman	1

The largest number of these teams that can be utilized by a C.C.S. is 5 teams.

Sub-divisions

The C.C.S. is divided into a Heavy and Light Section. The Light Section is comparatively easy to transport and is intended in the case of an advance to move up and take over the M.D.S., while the Heavy Section is preparing to move. In the case of a retirement, the reverse is done, the Heavy Section moving back first and the Light Section afterwards.

Equipment

The equipment of the C.C.S. is somewhat elaborate. Everything essential to the establishment and maintenance of a Surgical Hospital is provided.

Transport

The C.C.S. possesses no transport of its' own, except two lorries used for drawing rations and stores. Transport is provided by the "Q" branch of the staff. Approximately 22 lorries are required to move the equipment of a C.C.S. The Light Section requires ten 3-ton lorries. Eight cars are required for a move by rail.

Organization

The following sections are provided when organizing the C.C.S.:

(1) Stretcher Exchange Dump.
(2) Receiving Section.
(3) Recording Section.
(4) Resuscitation Section.
(5) Pre-operative Section.
(6) Theatre.
(7) Dressing Station
(8) Gas Section.
(9) Evacuation Section.
(10) Wards.
(11) Mortuary.
(12) Dental Section.
(13) X-Ray Section.
(14) Dining Section.
(15) Administrative Sect.
Offices
Stores
Living accommodations
Sanitary accommodations.

(The C.C.S. contd.)

Duties

(1) To receive casualties from the Field Ambulance.

(2) To provide adequate treatment for all cases admitted. This includes all types of major surgery.

(3) To prepare patients for further evacuation to General or Convalescent Hospitals.

(4) To collect and treat casualties from the base area.

(5) To establish advance operating centres when the situation permits.

Allocation of Casualties

On occasion, the C.C.S. may be allotted casualties in one of three ways:

(1) Geographical: In this case, the Unit receives casualties from certain areas. This is very satisfactory when formations are constantly changing.

(2) By Formations: Here the Units take casualties from specified Corps or Divisions. Orders will have to be constantly modified as Units are changed.

(3) For Special Cases: The C.C.S. may be detailed to receive certain types of cases. This has little to recommend it.

DETAIL:

1	Lt. Col.	
6	M.O.'s (8 Nursing Sisters)	
1	Q.M.	
1	S.M.	
1	Q.M.S.	
1	S/Sgt.	
7	Sgts.	
5	Cpls. (1 L/Cpl.)	
62	Ptes. (3 L/Cpls.)	Total 85
3	1st reinforcements	3

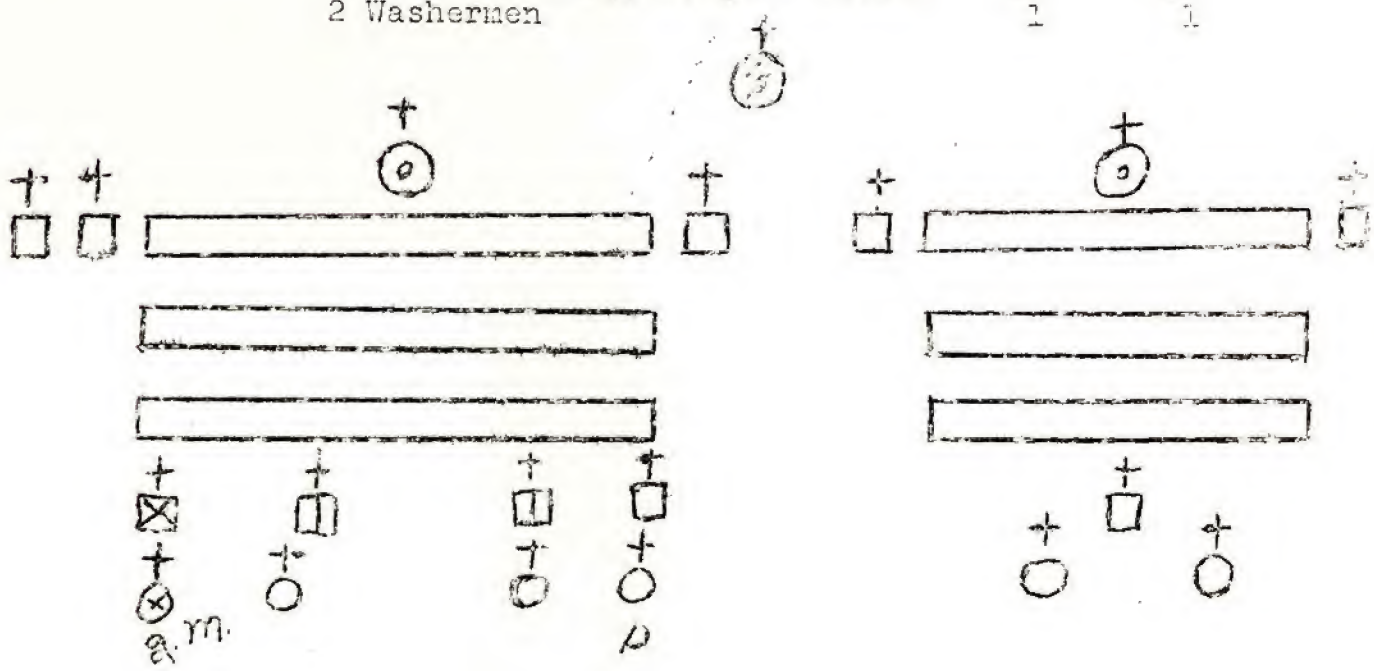
Attached:

1	D.O.	
1	Dental Mechanic	
1	Clerk Orderly	
3	Chaplains	
1	Batman	
4	Drivers R.C.A.S.C.	
1	Electrician R.E.	13
1	Engine Hand R.E.	

Additional:

2 Rank and File (when X-Ray)

Trades and Duties:		Heavy S.	Light S.
S.M.	Wardmaster	1	
Q.M.S.	Q.M. Duties	1	
S/Sgt.	General Duties		1
Sgts.	1 Clerk 2 Dispensers, one may be a corporal	1	1
	1 Hospital Cook	1	
	1 Pack Stores	1	
	2 Ward Duties	1	1
Cpls.	1 Clerk (pay also)	1	
	2 General Duties	1	1
	1 Linen Store	1	
Ptes.	1 Clerk		1
	2 Hospital Cooks	1	1
	1 Operating Room Assistant	1	
	5 Batmen	3	2
	3 Cooks (1 for Officers)	2	1
	12 General Duties (2 carpenters)	8	4
	1 Linen Store	1	
	1 Pack Store		1
	1 Q.M.Store	1	
	1 Sanitary		1
	2 Water Duties	1	1
	30 Ward Duties (20 nursing, 10 gen. duties	20	10
	2 Washermen	1	1



MEDICAL ORGANIZATION AND TACTICS

PRECIS NO. 6

Transport Units

1. THE MOTOR AMBULANCE CONVOY

Organization

Usually allotted on the basis of one per Army Corps. Additional units will be formed in reserve under the D. M.S. to deal with such emergencies as may arise.

It is divided into a Headquarters and 3 sections, each consisting of a Medical Wing R.C.A.M.C., and a Transport Wing R.C.A.S.C. In spite of this mixed constitution it is a Medical Unit and is commanded by a R.C.A.M.C. Major.

Headquarters

Medical Wing R.C.A.M.C.	Officers	2
	Other Ranks	7
Transport Wing R.C.A.S.C.	Officers	3
	Other Ranks	52

3 Sections, each

Medical Wing R.C.A.M.C.	Officers	-
	Other Ranks	7
Transport Wing R.C.A.S.C.	Officers	1
	Other Ranks	42

Total--214

Equipment

Medical

Bottles, Water, Medical	73
Companions, Medical	4
Haversacks, Surgical	15

Ordnance

Panniers G.C.	5
Panniers Medical Comfort	5

Transport

First Line	H.Q.	3 sections each	Total
Motorcycles	5	2	11
M.C. with Side Car	1	1	4
Motor Cars	2	-	2
Motor Ambulances		25	75
Lorries 3 ton, 6 wheeled, for			
Technical Stores	2	-	2
Breakdown	1	-	1
Workshop	2	-	2
Stores	2	-	2
Trailer, Kitchen	1	-	1
Trailer, Water tank	1	-	1
Second Line			
Lorries 30 cwt. 4 wheeled			
Baggage	1	-	1
Supply	1	-	1

(Transport Units Contd.)

Duties

(1) The M.A.C. is under orders of the D.D.M.S. but works in close collaboration with the A.D.M.S. Divisions.

(2) Collect wounded from M.D.S. and transport to C.C.S., and thence to Ambulance trains. A reserve should always be kept to meet emergencies.

(3) All routes are reconnoitred by O.C. before sending Ambulances along them; using routes not allotted for the movement of men and material whenever possible.

(4) Additional transport may be made available by "Q".

(5) Petrol dumps should be arranged for.

(6) When stretchers, blankets, splints, or hot water bottles accompany the patient, these should be replaced by the M.A.C.

(7) On occasion, the M.A.C. may evacuate directly from the A.D.S.

(8) Where the country is not suitable for Motor Ambulances, this unit may be used to provide other means of transport.

2. AMBULANCE TRAINS

Are used to evacuate casualties from the C.C.S. to hospitals at the base.

Number Mobilized
One per Division for a small force.
Two per three Divisions for a larger force.

Types

(1) Regular Ambulance Train.

These are designed solely for the carriage of sick and wounded. They can carry 360 lying cases. The staff consists of 3 Medical Officers, 3 Nursing Sisters, and 45 other ranks.

(2) Temporary Ambulance Trains

This is made up of Ordinary passenger coaches for sitting cases, and coaches which are fitted to take stretchers. The Medical personnel depends on the size of the train made up. A guide is; 1 Medical Officer 27 other ranks.

(3) Improvised Ambulance Trains

These are usually empty Supply Wagons returning to the Base. They are designed for slight cases that can look after themselves. The staff depends on the size. The following staff has been used: 1 Medical Officer, 5 other ranks, 20 convalescents.

(Transport Units Contd).

3. Inland Water Transport.

In countries where rivers and canals are available, they may be used for the evacuation of casualties of a type that would otherwise suffer from the jolting and noise of Motor Ambulance and Railway transport.

On large rivers, steamers adapted for the purpose may be used. As a general rule, however, Ambulance flotillas, composed of barges towed by tugs, are utilized.

They provide comfortable transit for the patient, but are very slow. A staff of 1 Medical Officer, 2 Nursing Sisters, and 2 Orderlies, is required for each barge.

4. HOSPITAL SHIPS

Types.

(1) Hospital Ship.

This is a vessel especially fitted for the transport of sick and wounded.

It is equipped to take 500 beds, and the staff includes Medical and Surgical specialists, and Nursing Sisters.

(2) Hospital Carrier

This is a passenger Steamer temporarily adapted for the conveyance of sick and wounded. Both this type and the above, fly the Red Cross and are protected by the Geneva Convention.

(3) Ambulance Transport.

This is a vessel which is used on the outward voyage as a troop transport, but has been fitted to take sick and wounded on the homeward voyage.

It cannot claim the protection of the Geneva Convention.

MEDICAL ORGANIZATION AND TACTICS

PRECIS NO. 7

Hospitals and Convalescent Depots

1. GENERAL HOSPITALS

These units closely resemble a General Hospital in peace, being fully equipped to treat any kind of disability.

Organization

Two types of General Hospital may be formed, one for 600 patients, and one of 1200 patients. Sufficient accommodation for 10% of the force should be provided. Special accommodation for the following types of case should be considered.

(a) Venereal and Skin cases.
(b) Infectious Cases.
(c) Gas Cases.
(d) War Neurosis.
(e) Mental Cases
(f) Injuries of Jaw and Face.
(g) Fractured femurs.
(h) Women of the Nursing Service, etc.,
(i) Native Laborers.
(j) Self-inflicted wounds.
(k) Civilians.
(l) Prisoners, of War.

It will depend upon the situation whether independent hospitals are specially detailed for each or any of these casualties or whether only a section of a General Hospital be allotted.

Site

The site of General Hospitals is bound up with the general organization of the base. They should not be sited near dumps, camps, important railway junctions, or other military installations. A 1200 bed hospital requires an area of at least 800 x 550 yds. and for a 600 bed hospital 500 x 450 yds. Proper sanitary facilities are of great importance.

It is of advantage to group hospitals under the administration of an A.D.M.S.

Approval of the Q.M.G. branch must be obtained before locating a hospital.

Construction

(1) Good roads both for access to and in the camp itself.
(2) Close to railway sidings.
(3) One-way traffic through the hospital.
(4) If established in tents or detached buildings, covered passageways should be provided.
(5) Kitchens should be close so that food can be served hot.
(6) Ample office and storage space must be provided.
(7) Room for expansion should be provided.

Personnel

(1) For a 1200 bed hospital-

Headquarters

Officers -	3
Other ranks	112
Attached	12

Medical and Surgical Divisions.

Officers	28
Nursing Sisters	80
Other ranks	109
Total	344

For every additional 100 beds add/

Officers -	1
Nursing Sisters	4
Other ranks	9

(2) For a 600 bed hospital

Headquarters

Officers -	3
Other ranks	73
Attached	8

Medical and Surgical Divisions

Officers	16
Nursing Sisters	50
Other ranks	67
Total	227

For every additional 100 beds add:

Officers	2
Nursing Sisters	5
Other ranks	11

Reinforcements for duty in these hospitals during times of great activity may be obtained from men unfit for duty in the line or convalescents.

Equipment

The General Hospital is equipped on a very comprehensive scale, approximating that of a large Hospital in peace time.

Transport

A General Hospital has no transport of its' own. When required this will be provided by the Q.M.G.

(i) 1200 bed hospital

Weight of Ordnance equipment	200 tons
Weight of Medical equipment	23 tons 16 cwt.
Railway transport required	69 trucks.
Storage space required	35,921⅓ cu.ft.
Floor space required	7,860 sq.ft.

(2) 600 bed hospital

Weight of Ordnance equipment	120 tons
Weight of Medical equipment	14 tons 14 cwt.
Railway transport required	38 trucks
Storage space required	24,076 cu.ft.

Floor space required 4,684 sq.ft.

Organization

(1) Offices and Stores.
(2) Enquiry office.
(3) Reception Section.
(4) Dressing Section.
(5) Pre-operative and resuscitation Section.
(6) Operating Theatre.
(7) X-Ray and Physiotherapy Section.
(8) Gas Section.
(9) Medical and Surgical Wards.
(10) Infectious and V.D. Sections.
(11) Laboratory.
(12) Dental Section.
(13) Kitchens & Dining Halls.
(14) Recreation rooms.
(15) Sanitary Accommodation.
(16) Living Quarters for staff.

Duties

These are similar to a general hospital in peace.

When notification is received that a convoy of patients is arriving, the Reception Staff will be held in readiness. This staff should consist of a M.O., one or more clerks, a representative of the Q.M. department to take over kits and personal property, a number of stretcher bearers, and a few guides to assist walking patients.

The patients on arrival are inspected by the M.O. and assigned to particular wards according to the nature of the disability. Walking wounded, unless requiring urgent treatment, normally proceed to a special section where they are bathed and receive clean clothing.

Eventually when patients are considered as not requiring further treatment, they will be discharged to duty at convalescent depots.

2. CONVALESCENT DEPOTS.

General

Convalescent depots are Medical units. The number organized will usually run between 4 and 5% of the strength. They are usually provided for each group of General Hospitals. Advanced convalescent depots may be established in forward areas to ease pressure on C.C.S.'s or forward General Hospitals. Each depot is organized for 2000 convalescents.

Site.

They are located on lines of communication as recommended by the D.M.S., and should be near the General Hospitals.

An area of about 25 acres is required, and much the same conditions as to the site of a C.C.S. apply, withe the exception that railway connections are not a necessity.

Construction

The men will generally have to be accommodated in tents, of which the following are provided.

Tents, C.D.....260
Tents, Marquee, Hospital (large)..... 10
Tents, Stores..... 6

At times it may be possible to provide accommodation in buildings.

The following facilities should be provided:

(1) A large parade ground or Sports' field.

(2) Large dining halls with adjacent kitchen.

(3) Recreation and Canteen facilities on a generous scale.

(4) Laundry, baths, and disinfestation facilities.

(5) Small detention hospital.

(6) Administrative facilities such as offices, stores, Etc.,

(7) Accommodation for all personnel.

Personnel

	Officers	Other Ranks	Attached
Headquarters	2	5	58 (a)
Two Divisions	2	-	56 (b)

Total 123.

(a) includes 7 Infantry Officers
(b) includes 2 Infantry Officers

Equipment.

As for a Standing Camp

Transport

None is provided.

Weight of equipment	63 Tons 1 Cwt.
Storage space required	12,478 Cu. Ft.
Floor space required	1,856 Sq. ft.
Railway Transport required	13½ Trucks

Duties

Convalescent depots are intended for the reception of both officers and men who require no further active Medical or Surgical treatment, and who, though not yet fit for duty, are likely to become so within a reasonable time. Therefore the treatment here consists of :

(Hospitals & Convalescent Depots contd.)

(a) Gradual exercise to restore physical fitness.
(b) Recreation and amusement.
(c) The elimination of irksome discipline.

The first object is obtained by grading the men into three categories. On admission they are placed in the lowest category and are put through a short course of physical exercises of a light and interesting character, but calculated to bring all the muscles of the body into play.

In the next category, the exercises last longer and make a greater demand on the soldiers' physical energy, while in the highest category more strenuous exercises, games, and route marches, are carried out until the soldier has become fully fit for duty.

All possible means of recreation both indoors and outdoors, should be provided.

Before a man is discharged from a convalescent depot, he should be inspected most carefully by the C.O. who should satisfy himself that the man is fit for duty.

If patients fail to regain their fitness within a reasonable time, they should be brought before a Medical board for consideration.

3. ADVANCED DEPOT MEDICAL STORES

These are normally provided on the basis of one to each corps. They are located in forward areas, preferably at Ambulance Railhead or in the neighborhood of a C.C.S. or group of C.C.S's.

They supply medical equipment, on requisition, to all medical units in the Corps, area.

4. BASE DEPOT MEDICAL STORES

These are provided on the basis of one to every base port organized for disembarkation in the Theatre of War. They supply equipment to the Advanced Depots and to all units behind Corps area.

They are located where they can most easily receive stores in bulk and distribute them.

5. MOBILE LABORATORIES

There are two varieties, both consisting of 2 officers and 2 other ranks, who work in a laboratory fitted into a lorry. They have an additional motor car for transport.

They are allotted to armies in the proportion of 1 Hygiene and 2 Bacteriological Laboratories to each Army.

MEDICAL ORGANIZATION AND TACTICS

PRECIS NO. 8

The Evacuation of Casualties

General

The Medical Service in the field is organized to effect rapid evacuation of the sick and wounded. The efficiency with which this system is organized and administered greatly affects the mobility and morale of the army. (F.S.R. Vol. 1)

Anyone who for any reason becomes unfit to perform his duty in the field is a hindrance to the efficiency of the force, and his presence among the fighting troops tends to lower their morale. He must therefore, be removed as speedily as possible to some place where he can be properly treated and restored to physical efficiency, or otherwise disposed of according to the nature of his wound or disability. This procedure is know as evacuation.

In making arrangements for the evacuation of sick and wounded from a force in the field two categories have to be considered, viz., the daily sick and wounded from casual encounters, and the wounded from an engagement.

The daily admissions to medical units of sick and casual wounded are usually assumed to amount to 0.3 per cent of the force. This figure is, in the absence of any epidemic, e.g. influenza, or of very unfavourable climatic conditions, quite a liberal estimate for a campaign in a temperate zone. In the tropics endemic diseases, especially malaria, may easily cause a great increase in the daily sick rate.

In ordinary circumstances about 40 per cent of the daily sick can, if the military situation permits, be treated in Divisional medical units and should be fit to return to duty in a week. The remainder will have to be evacuated, but about 80 per cent of them should be fit to rejoin their units within a month.

Cases of infectious disease are almost certain to occur and must be evacuated as quickly as possible by transport reserved for this purpose, to a hospital specially arranged for their treatment. Mental cases require an escort to their destination.

When a general engagement takes place, a large number of wounded will have to be collected and evacuated.

Normal Procedure

The normal procedure is described in the following paragraphs, but modification in detail may be necessary to meet local requirements.

When a man in a unit is wounded, the Regimental Stretcher Bearers, or his comrades, should apply his First Field Dressing. He then makes his way, or if unable to do so, is carried by the Regimental Stretcher Bearers to the R.A.P. Here the R.M.O. gives such attention as may be possible, affixes a Field Medical Card, A.F.W. 3118, with his diagnosis and treatment given. Special note should be placed on the forehead of such a case, either with iodine, indelible pencil, or on a piece of adhesive which may then be stuck on.

If the wounded man is able to carry on unassisted, he is directed to the A.D.S., or if a W.W.C.P. has been established he is directed to it. Otherwise the casualty awaits further evacuation by the Field Ambulance.

Stretcher bearers of the A.D.S. Collect the wounded from the R.A.P.'s and transport them to the A.D.S. Certain modifications may be made in this stage of evacuation. Wheeled stretchers may be utilized. Prisoners of war being sent to the rear may be used to carry stretchers. If the carry is long, a Bearer Relay Post may be established about half way so as to give bearers some relief. In certain situations, ambulances may work ahead of the A.D.S. to a certain Car Post, to which point only the bearers will carry the wounded.

On arrival at the A.D.S., which is only intended for collecting cases evacuated from the R.A.P.'s, the wounded receive such attention as may be urgently needed to prepare them for further evacuation to the M.D.S.

It is usually possible to get ambulances up to the A.D.S. The eight ambulance cars of the Field Ambulance are therefore utilized to transport wounded, other than those who can walk to the W.W.C.P., on this stage of their journey. This stage will probably be carried out only at night due to enemy observation from the air. Difficulties may be experienced in obtaining the use of roads. Traffic routes are usually laid down in operation orders and must be strictly adhered to.

From the M.D.S., the M.A.C. provides transportation to the C.C.S. They also make regular runs to the W.W.C.P. to clear this post. The C.C.S. being equipped to provide full surgical treatment and afford hospital accommodation, will retain those cases unfit to proceed further. Owing to the limited accommodation, however, further evacuation of those fit to travel, and early evacuation of others, will be made to General Hospitals.

In civilized countries, this stage of the evacuation will be carried out by Ambulance trains, Hospital Ships, or barges. In uncivilized countries, ambulance convoys are made up of any available transport.
At General Hospitals, patients are retained for treatment until they are fit for duty or transfer to Convalescent Depots, or are evacuated home.
In connection with evacuation generally, the following points are worth noting:

(1) Arms and Equipment, are always discarded by the wounded as soon as possible, but normally, after removal of ammunition, they should accompany patients to the M.D.S., where they should be collected and disposed of under divisional or corps arrangements.

(2) Recording men's particulars, especially during a rush, may seem to be somewhat unnecessary. It must, however, be remembered that it may subsequently become essential to trace the man's movements that his C.O. and next of kin must be informed of the nature of his wound and his disposal, and lastly, that the O. i/c, 2nd. Echelon, and the A.D.M.S. have to render returns showing the number of casualties. However irksome it may be at the time, the recording of a man's particulars and the nature of his wound or other disability must be systematically carried out before he is evacuated beyond the M.D.S. At a much later date the grant of a disability pension may depend on the man being able to establish the fact that he was wounded in action and not as the result of an accident.

(3) The greatest care must be taken to safeguard the equipment and personal belongings of individual casualties especially of helpless ones. so that no loss occurs to them whilst under medical charge.

Whenever circumstances permit, these articles should be checked and recorded on the first occasion possible after the individuals have been taken into the charge of a medical unit. So-called losses in medical units are thereby prevented.

(4) Slighter casualties evacuated beyond the C.C.S. and down to the base take a longer time in rejoining the front line troops than do similar ones retained and treated in divisional areas. There is much or less possibility of their rejoining their old units owing to being passed into a general base depot after convalescence. Whenever circumstances permit, therefore, arrangements are made for the establishment of rest stations in divisional and C.C.S. areas by means of field ambulances and C.C.S.'s. On the L. of C. the situation may allow of the establishment of a general hospital and convalescent depot in the advanced base area. Great economy in manpower and in transportation is thereby frequently effected.

Estimation of Casualties

When arrangements are being made for the evacuation of casualties from an engagement, two questions have to be considered:

(1) The probable number of wounded.

(2) The proportion which will have to be transported lying down and sitting.

It is most difficult to forecast the probable number of wounded in a formation, as so much depends on the military conditions.

The General Staff must for their own purpose make a forecast of the casualties to be expected, and they should be consulted.

An attack on an enemy possessing little or no artillery should not result in more than 5 per cent. casualties of the troops engaged. many of which would not be serious, while an attack on a highly trained force, equipped with the latest modern weapons and holding a fortified position, may cost the attacking force 40 to 50 per cent. of its strength. The casualties occur in waves as each forward movement takes place with intervals of quiescence lasting a few hours or even a whole day.

Experience in one of the great battles in France during the Great War showed that in the first 48 hours the wounded who had to be evacuated approximated to 20% of the troops engaged, while at the end of the first week of the battle the wounded evacuated totalled 40% of the troops engaged. Individual formations [illegible] in disadvantageous situations, may lose more heavily, up to nearly 50% in a few hours.

Future developments in offensive weapons, especially those of a chemical nature, may necessitate an entire revision of these rough estimates. In spite of all this however the following scale will be of some use:

Cron's Estimate.....6%
[illegible]

As regards the number of killed, the generally accepted ratio is 1 killed to 5 wounded, but effective enemy artillery fire will increase the ratio of killed and of seriously wounded who require lying down transport.

Estimation of Transport Required.

In calculating the transport required, the area should be divided as follows:

(1) In the region between the front line and the A.D.S. it may be assumed that 25% of the wounded will require lying-down transport, and the remainder, with the assistance of wounded comrades and casual means of transport, will make their own way back for one to two miles. Immediately before an attack most men are in a state of high nervous tension. For a variable time after being wounded, this state of excitement enables a man to make his own way towards an A.D.S. A reaction mainly due to nervous exhaustion and, to a certain extent, to the shock of being wounded, then makes itself felt, and the wounded man is unable to proceed further without the aid of some form of transport.

(2) Between the A.D.S. and the M.D.S. the proportion of lying-down cases will increase slightly, say, to 30% of the total wounded. Transport for sitting cases will be required for the remainder.

(3) From the M.D.S. to the casualty clearing station all wounded must be provided with transport, say, 50% lying and 50% sitting. If a W.W.C.P. has been established, 5% of the wounded admitted to it will require a lying-down transport, while the remaining 95% should be provided with sitting transport.

(4) From the casualty clearing station to the general hospitals, during active operations, 50% of cases evacuated will require lying-down and 50% sitting accommodation. 10% of the number brought to the C.C.S. however will be too ill to evacuate. Should transport, additional to that allotted to the medical service, be considered necessary in order to evacuate the wounded, application should be made to the Quartermaster General's branch of the staff.

Time required for Evacuation

MacPherson's formula is fairly accurate for estimating the time required to evacuate a given number of wounded..

T = Time required

W = Number of sick and wounded

t = Time taken by transport for one return journey

M = The number of vehicles available

N = The number transported by each vehicle

$$T = \frac{1}{M} \times \frac{W \times t}{N}$$

or to find the number of vehicles required to evacuate in a given time.

$$M = \frac{1}{T} \times \frac{W \times t}{N}$$

ORGANIZATION AND ADMINISTRATION
PRECIS NO. 9

The Geneva Convention

Historical Note:

The growth of the humane ideal of treatment of war casualties has been, of course, slow and irregular, and within historical times among Western Nations has varied between the two extremes of wanton torture of enemy wounded and the effort to render their lot as satisfactory as possible. As with most organized sociological developments, intelligent effort to improve the situation of casualties has been most manifest within the last century; and a crystallizing public awakement was precipitated (as is common knowledge) by the work of the British Medical Services during the Crimean War.

It is interesting to note that medical services to the common soldier of any army were, in ancient times, haphazard at best. Surgeons indeed accompanied armed forces in the field, but doubtless, occupied much the same position as did the famed Ambrose Pare, namely, that of a retainer and a member of the personal retinue of a feudal leader. The writings of this surgeon makes clear that no medical organization as we now understand it existed; and that his services to soldiers were undertaken on the personal grounds of professional interest and humanity.

In late medieval and Renascent times however, certain milder usages of war made their appearance and today we find several formal agreements between nations to govern the conduct of their respective combatant forces.

Examples of the chief written agreements existing today are:

(1) The Declaration of St. Petersburg, 1868 forbidding the use of explosive projectiles under 400 gm weight.

(2) The Hague Declaration, 1899 respecting expanding bullets and asphyxiating gases, and

(3) The Hague Convention of 1907 concerned with procedure on opening of hostilities and rights of neutrals and

(4) That one with which we are immediately concerned, namely, the Geneva Convention, or by its full title, A "Convertion for the Amelioration of the Condition of the Wounded and Sick in Armies in the Field" of 27th July 1929.

This last document has undergone revision from time to time, and in its present form stands as the Geneva Convention of 1929. It consists of thirty-nine articles falling naturally into eight chapters and the final provisions.

The Principle Provisions

Chapter I (1) Sick and wounded will receive care irrespective of nationality.

(2) Abondoned casualties will be left in the care of the Medical personnel, provided with adequate material, of the retiring belligerent.

(3) Captured casualties are prisoners, entitled to no privilege beyond proper medical attendance.

(The Geneva Convention Contd.)

(4) The Commander left in possession of a field is responsible for collection, care, and protection of wounded and dead; and for the sever punishment of all persons guilty of maltreatment or pillage.

(5) Nominal rolls of enemy casualties and death certificates shall be transmitted through proper channels (usually a Prisoner of War Information Bureau) to their government. Provision is made for return of articles of a personal nature and reverent care of the dead.

(6) The inhabitants, under due control, and actuated by charity, may be utilized in the care of sick and wounded. (vide MML xiv 182, 183)

Chapter II

(7) Mobile medical formations and fixed establishments are afforded protection by the belligerents, which protection ceases if they are improperly utilized.

(8) Certain protective and other measures are not regarded as improper, viz.,

(a) The possession and use of arms for protection of sick and wounded as against marauding hands.

(b) The mounting of armed sentries or piquets.

(c) The retention of small arms, etc. as yet not finally disposed, taken from casualties.

(d) The presence of veterinary personnel and materials in the establishment.

Chapter III

(9) Medical personnel enjoy protection under all circumstances. If captured they are not regarded as prisoners of war, but are afforded special treatment (see Para. 10)

These provisions apply likewise to specially trained soldiers (e.g. stretcher bearers) when actually engaged in Medical duties: and to voluntary aid personnel employed under certain conditions.

(10) Medical personnel falling into the hands of the enemy are not regarded as prisoners of war. They may be retained and employed, but only in technical duties, so long as their services are required; while so employed they must receive the same pay, rations and quarters as do the corresponding ranks of the army in whose hands they are; and they must be returned to their own side as soon as the necessity for their retention has passed, or when the exigencies of the military situation permit.

Chapter IV

(11) Disposition of captured medical materials, etc. These do not constitute prizes of war. Mobile medical formations falling into enemy hands retain equipment, stores, transport and transport drivers. Such equipment, etc., may be used by the captor for medical purposes, but shall be restored with personnel, if possible at the same time.

Buildings and materials of fixed medical establishments constitute prizes of war. But as long as they are required for their primary use, they shall not be diverted to other purposes.

Buildings etc., of Voluntary Aid Societies, are private property. As such they may be requisitioned on repayment by an opposing force, but only in the face of urgent necessity.

Chapter V

(12) In general, medical transport is treated in the same manner as mobile medical formations. An enemy may intercept a vehicle or break up a convoy, granted that the casualties are cared for, and may use the vehicles for medical purposes in the same sector in which they are captured. Military personnel attached thereto are returned to their own side on the understanding that they remain in the same capacity throughout the hostilities.

Aircraft used as medical transport are painted white and marked with the distinctive emblem. They must obey every summons to land, but elsewhere are subject to rules analogous to those applicable to other types of medical transport.

Chapter VI

(13) The distinctive emblem, the Red Cross on a white background was adopted in compliment to Switzerland. Other emblems, where already used (Red Crescent, Red Lion and Sun on a white background are accorded equal recognition.

The emblem figures on flags, armlets, and materials of the medical services, Personnel of the regular medical service of Voluntary Aid societies and of recognized societies of neutral countries, are authorized to its protector.

The distinctive flag is hoisted over the various medical establishments, with, in fixed establishments the national flag, should such fall into enemy hands, the Red Cross flag only is flown.

The distinctive emblems must be made clearly visible whenever circumstances permit.

Medical units of neutral countries fly the flag of the belligerent to whom they are attached, along with of course, the Red Cross emblem. They may as well display their national flag.

Chapter VII

(14) Miscellaneous.

The provision of the convention are at all times binding on the signatories even though their enemy may not subscribe to its provisions. Commanders-in-Chief are responsible for their execution in war.

Commercial abuse of the emblem is forbidden and suitable provisions are made for ratification and denunciation (repudiation) of the Convention.

Voluntary Aid Societies.

The Geneva Convention provides for protection of the personnel and materials of Voluntary Aid societies, of combatant and neutral countries, and although reference has already been made to this subject, it is convenient to summarize the terms relating to them.

(The Geneva Convention Contd.) Page 4.

(1) Voluntary Aid Societies must be duly recognized and authorized by their governments.

(2) The names of such societies must be transmitted to the High Command of the opposing sides.

(3) Recognized societies of neutral countries must receive both, the consent of their own government and the authorization of the belligerant concerned. Their acceptance must be made known to the enemy before their services are utilized.

HYGIENE & SANITATION

PRECIS NO.1

Organization

1. An army is a vast organization both at home and abroad and in order to achieve its object with the greatest economy, every man must not only be fully trained, but must also be physically fit to carry out his duties in any part of the world. The efficiency of a soldier depends on his physical fitness, therefore the importance of keeping him in a good state of health.

Hygiene

The science of the maintenance and promotion of health and the prevention of disease.

Sanitation

May be regarded as the practical application of the laws of Hygiene.

Conservancy

The collection, removal and disposal of waste products. This is a very important part of sanitation.

2. Organization

The head of the Medical Services of a large force consisting of a number of Armies is the:
Director General of Medical Services (D.G.M.S.)
On his staff as Hygiene Advisor Director of Hygiene (D.H.)
The D.G.M.S. is represented at G.H.Q. of an Army by a
Director of Medical Services (D.M.S.) and in lessor formations the D.M.S. is represented by the D.D.'s M.S. and A.D.'s M.S.
The Director of Hygiene is represented in the field by a A.D.H. at G.H.Q. and at Corps H.Q. by a D.A.D.H.
The D...D.M.S. of a division is the Hygiene advisor for the division through the A.D.M.S.
These Hygiene officers act as technical advisors to the administrative medical officers of their formation or area. They also supervise health conditions and sanitary measures in the units and areas for which they are responsible.

Formation Unit or area concerned	Representative of Medical Services	Specialist Adviser in Hygiene & Sanitation	Special Sanitary units or Personnel
G.H.Q. of a large Force	D.G.M.S.	D.H.	
G.H.Q. of an Army	D.M.S.	A.D.H.	Mobile Hyg.
Corps H.Q.	D.D.M.S.	D.A.D.H.	Fld. Hyg. Sec
Division H.Q.	A.D.M.S.	D.A.D.M.S.	Fld. Hyg. S
Unit	R.M.O.		Water Duty. D. Sanitary Per
Base sub-area	A.D.M.S.	D.A.D.H.	Fld. Hyg. Sec
L of C sub-area	A.D.M.S.	D.A.D.H.	Fld. Hyg. Sec

In addition to the preceding organization, there may also be appointed a Hygiene Advisory Committee.

The D.H. acts as President and the A.D.H. as Secretary of the Committee, with other Hygiene Specialists as members. The principle duties of the committee are :

(a) To co-ordinate health measures, between different military branches.

(b) The solution of sanitary problems.
(c) To arrange for the provision of sanitary appliances and materials for the force.

3. Responsibilities for Sanitation

(1) Each unit or Area Commander is responsible for the maintenance of Sanitation in its own area.

(11) The Medical Corps gives advice as to the measures necessary.

(111) The Engineers provide the material for and give advice as to the construction of sanitary appliances.

4. Field Hygiene Section

(a) Number Mobilized
One per division. They are also provided for Non-Divisional troops, L of C. and Bases as necessary.

(b) Personnel
Officers.....1 (not necessarily a Medical
Other Ranks.....2 Officer)
Attached R.C.A.S.C..... 5

(c) Transport
Motor cycles.....as required
Bicycles.....3
Motor Car, 2 seater.....1
Motor Vans, for equipment..2
Lorry for personnel.....as required
Lorry Disinfector.....1

(d) Duties of Field Hygiene Section

(1) Act as Sanitary Inspector of the division.

(11) Skilled supervision of labour employed in the removal and disposal of excreta and refuse, and in the construction of latrines and other sanitary works.

(111) Disinfection of billets, clothing and other articles when communicable disease occurs.

(1V) Supervision of bathing, disinfection and disinfestation centres.

(Organization Contd)

(V) Supervision, purification and prevention from contamination of water supplies.

(Vl) Sanitary plice duties.

(Vll) Instruction to the troops on technical sanitary matters.

(Vlll) Preparation of Statistics.

Although Field Hygiene sections are available for Technical advice and assistance, their existence in no way relieves a single unit of its ceaseless responsibility for its own sanitation.

6. Duties of Regimental Medical Officer.

Advises the C.O. on all matters relating to preservation of health and prevention of disease. He is responsible to the C.O. for the efficient performance of their duties by the regimental water duty and sanitary personnel. In technical matters, he is under the direct control of the senior administrative medical officer of the formation or area.

7. Unit Personnel

Each unit in the field has a trained sanitary detachment. This detachment performs all sanitary duties for the unit e.g. disposal of excreta and refuse, construction of latrines etc. and acts as sanitary police in the area occupied by the unit.

In addition, there is in each unit another detachment, consisting of men specially trained in methods of purification and protection of water supplies.

Thus each unit is self contained as regards its sanitary and water duty personnel, who accompany it wherever it goes, and carry out all the sanitary measures necessary for the unit, although when circumstances demand if these measures are supplemented by more elaborate arrangements in which the Field Hygiene sections take part.

An infantry Battalion has the following sanitary and water duty personnel

Sanitary Orderlies	8	- 4 from H.Q. - 1 each company
Water Orderlies	4	- of which 2 are from H.Q.

HYGIENE AND SANITATION

PRECIS NO. 2

Personal and Collective Hygiene

1. Causes for increased prevalence of disease in the Army

(I) Vitality and resistance lowered, due to fatigue, exposure, unaccustomed climate, scanty food and indifferent cooking.

(II) Men are massed together, therby exposing personnel to infections against which they have not sufficient resistance.

(III) Men fail to realize the necessity for personal hygiene.

(IV) Camp sites are selected for tactical rather than hygiene reasons.

2. Collective Hygiene.

The Commanding Officer is responsible for the Collective hygiene of the Unit.

(I) Cleanliness

A clean unit is an efficient one. Collective cleanliness makes each individual effort much easier.

(II) Clothing

(a) Clothing is primarily intended for protection against cold, heat and injury. For military purposes it should be uniform, economical, hard wearing and inconspicuous However, it should always be suitable for the climate Retention of heat must be considered in cold climate, while evaporation of moisture and reflection of heat are important in hot climates.

(b) Clothing should be properly fitted to allow for freedom of movement and to prevent chafing.

(c) Boots should always fit properly and should always be fitted while the soldier has his pack on. They should always be kept in good repair.

(III) Equipment

Complete equipment should be fitted. No additions should be made to equipment once it has been completed.

(IV) Environment

Surroundings whether in barracks, camps or billets should be clean and sanitary. Proper sanitary appliances should always be constructed to ensure cleanliness and there should be enough to accommodate the troops in the area concerned. Proper bathing and ablution facilities are of great importance.

An adequate safe water supply is a necssity and proper cooking facilities should always be provided.

(V) Rest

Rest is necessary for repair and replacement of worn parts. Efficiency cannot be obtained without proper sleep.

(Vl) Relaxation

Relaxation is of great importance. Sports should be encouraged with definite periods adhered to, in order to prevent monotony.

3. Personal Hygiene

(1) Cleanliness of Clothes

Attention must be paid to cleanliness of clothing. Underclothing soon becomes foul smelling from accumulation of perspiration and oil from the skin. When free circulation of air around the body is prevented or when the skin pores become clogged, germs accumulate and give rise to various types of skin diseases.

(11) Skin

A hot bath should be taken at least once a week. Where the situation permits baths should be taken more frequently depending on the occupation engaged in. Baths should always be followed by a good rubbing with a dry towel and clean underclothing put on. Watch should always be kept for lice, scabies, impetigo or other skin infections which should be reported at once.

(111) Hair

The hair should be kept short, combed and brushed daily, and washed requently. Hair brushes and combs should be used by one person only and should be cleaned frequently.

(1V) Teeth

Dirty and decayed teeth hinder proper mastication of food, as well as accumulate germs, causing a septic condition of the mouth with absorption into the system. Teeth should be cleaned with a soft brush twice a day or at least after the evening meal. A hard brush breaks the mucous membrane of the mouth favouring infection. Dental care should be requested at regular intervals.

(V) Hands and Finger Nails

Cleanliness of the hands and finger nails is very necessary. Hands should always be washed after visits to latrines and before meals, to avoid transferring germs from the hands and finger nails to food. Handlers of food should take extreme caution with respect to the cleanliness of hands and finger nails. Finger nails kept short assist in keeping foreign material from getting under them. They should be cut regularly and never bitten off.

(Vl) Feet.

Great care should be taken of the feet. Frost bite, trench foot, fungus infections should be avoided. Proper drying of feet after baths is necessary to prevent water remaining between the toes. Minor injuries such as chafing, blisters, etc., should be attended to immediately. Trench foot can largely be prevented by not wearing boots, socks or puttees which are tight fitting, and by keeping the feet warm and dry.

(Personal and Collective Hygiene Contd.)

(Vll) Coughing and Spitting

More precautions are required in the army, due to the large number of men in close contact. Disease germs can travel through the air by coughing, shouting, or sneezing up to 24 feet. A hand or handkerchief over the mouth should always be used. Spitting on the floor dries, germs spread from it through the air.

(Vlll) Care should be taken in latrines. Contamination of the surrounding area is a personal matter. Ablution rooms, showers and bath must be kept in clean condition. Anyone suffering from unknown skin rashes or sore feet should not use showers or baths before medical examination of the condition.

4. Special Precautions Against Trench Fest and Frost Bite

(1) True frost-bite is caused by exposure to intense cold, especially in mountainous regions. Trench foot is caused by long contact with cold and damp, e.g., by prolonged standing in cold water or mud, or by the continued wearing of wet socks, boots and puttees. The onset of both conditions is much more rapid when the blood circulation is interfered with, e.g., by tight boots, tight puttees or duties requiring men to stand or sit still for a long time, especially in a cramped attitude.

(2) These disabilities may occur behind the line as well as in the trenches, for example, in men standing in cold mud or melted snow while signalling, wiring, road-making, on stable guard, piquet, etc., and also in transport personnel, exposed to cold and damp, on duties allowing little or no active exercise to stimulate the blood circulation.

Individual preventive measures

(l) When there is likelihood of trench foot or frost-bite occurring, boots must be in good repair and easy fitting, and kept water-tight by frequent application of grease or dubbin. They must not be laced tightly, and the laces must not be tied round the ankle. Two pair of socks or inner soles should be worn, and to allow for this boots should be large enough to admit two pair of socks and these should be worn at the time of fitting the boots.

(ll) Before going on duty in wet trenches, in exposed situations or on convoy, the legs and feet, and the hands also in the case of transport personnel, will be washed and dried; warm whale oil will then be thoroughly rubbed in until the skin is dry, and dry socks put on. A dry pair of socks should be carried in the pocket. Boots, socks and puttees should be taken off at least once in 24 hours (more ofter if circumstances permit) the legs and feet rubbed dry, and the dry pair of socks put on.

(lll) When wearing gum boots the socks may be supported by some form of fastening such as a safety pin, but on no account will anything in the form of a garter be worn.

(IV) The body must be kept as warm as possible by exercise. In the event of frost-bit the part affected should on no account be warmed at a fire, but well rubbed to re-establish the circulation.

(V) When the onset of trench foot or frost-bite is probable.

(i) Whenever practicable, before going on duty in exposed places, men should be given a hot meal. Meals should be regular, and men on duty should have hot food by night as well as by day.

(ii) Tours of duty in exposed or wet situations should be short. As few men as possible should be detailed for duty in wet trenches, braziers being provided for troops to warm themselves and dry their clothes, and arrangements made for socks to be dried and re-issued during the tours of duty.

(iv) Men should sleep with boots and puttees off, the feet being wrapped in blankets, newspaper, straw or hay, etc. In any case the boots must not be tightly lace.

(v) At the end of a tour of duty men should be marched to a specially prepared rest station where braziers and fires can be arranged. They should receive a hot meal and then strip, at any rate as regards the legs and feet, rub down, and while they are wrapped in blankets their clothes are dried.

(vi) Dry standings should be provided in trenches and other localities.

(vii) The lining of gum boots gets wet quickly. To dry them they should be hung in a drying-room from racks feet down, with upper portion kept open by a piece of wood. If hung feet uppermost the process is a much more lengthy one.

(viii) Transport units will ensure that a shelter of some sort is available for men on return from convoy duty in bad weather, to which they can go and get warmed and dried, have a hot meal, change wet boots, etc., for dry ones, and if necessary rub feet and hands with warm oil.

(ix) Similar arrangements will be made at rest camps to ensure warmth, hot food, and means for drying clothes for parties arriving in bad weather,

(x) A warmed dry place should be provided in which the men off guards and piquets can rest when not actually on sentry.

HYGIENE AND SANITATION

PRECIS NO. 3

Food and Water

1. Purpose of Food

Food may be regarded as anything that, taken into the body, is capable of supplying material for growth and the repair of waste, or of furnishing energy for bodily heat and work.

2. Purpose of Water

Water serves for the solution and conveyance of food to the various parts of the body and also for the excretion of waste products.

3. Constituents of Food and their Sources

(1) Carbohydrates

Carbohydrates are a source from which the body obtains the energy required for work, and production and maintenance of the body's heat.

SOURCE OF SUPPLY - Starches and sugars

(11) Proteins

Proteins are required for growth and to rebuild tissues which are being continually worn out in the process of living.

SOURCE OF SUPPLY - Milk, eggs, meats, cereals

(111) Fats

Fat is a source of energy but not so readily digested and absorbed as carbohydrates, therfore has less readily available energy.

SOURCE OF SUPPLY - Meat, fish dairy products

(1V) Vitamins

Substances which are essential for the maintenance of health and the production of growth. Composition unknown

(a) Vitamin A - essential for growth and nutrition.

SOURCE OF SUPPLY - animal fats and green vegetable

(b) Vitamin B

1. B 1 Prevents Beri-Beri, a nerve disease
2. B 2 Essential for growth and prevents Pellagra a disease of the skin.

SOURCE OF SUPPLY - Yeast and legumes

(c) Vitamin C.

Antiscorbutic - prevents scurvy
SOURCE OF SUPPLY - Citrus fruits

(d) Vitamin D

Antirichitic - prevents rickets

SOURCE OF SUPPLY - Sunshine, fish oils.

(e) Vitamin E

Necessary for reproduction

SOURCE OF SUPPLY - Wheat, dairy products, vegetable oils.

(V) Minerals

Certain mineral substances are essential for the proper function of the body - calcium, iron, iodine, etc.

SOURCE OF SUPPLY - All foods, especially some vegetables.

4. Quantity of Food Required

The energy value of food is measured in calories.

Protein	4.1 calories
Fat	9.3 calories
Carbohydrate	4.1 calories

A full grown man requires 1700 calories a day when at rest of which 100 grams should be protein which is necessary for tissue repair.

Ordinary work	3,000 calories
Hard work	4,500 - 5,000 calories.

These amounts must necessarily contain sufficient vitamins and minerals.

5. Quality of Food

The value of food varies with its quality. Careful routine examination of all food is necessary to make sure it is of good quality before it is consumed.

Decomposition and contamination are more apt to occur during hot weather necessitating a more rigid inspection.

6. Storage of Food

Food should never be kept in rooms or tents where men live or sleep; near latrines or exposed to flies. Ventilated fly proof, rat proof stores and larders should be used for storage.

7. Varieties of Food.

No matter how correctly food ingredients are balanced, the food must appeal to the appetite, and this entails variety.

8. Cooking of Foods

Cooking improves the appearance and smell of food and also kills germs. It increases the digestibility. Prolonged heat destroys vitamins and much of the food value may be lost by careless or bad cooking.

9. Serving of Food

The attractiveness of food can be spoiled by unpleasant appearance of the food and lack of careful preparation.

10. Disease Associated with Food

(1) Deficiency Diseases

These are due to the lack of vitamins and mineral salts.

(2) Poisons

Foods may be poisoned by accidental contamination with insect sprays, poisons, etc.

(3) Worms

Some types of worms take as their hosts, the flesh of animals. Proper cooking is necessary in order to destroy these worms which may be in raw meat.

(4) Bacteria

Germs are amongst the most common cause of disease conveyed by food. They may be contained in meat products or be conveyed to food by flies, dust, hands, water utensils, etc. The common diseases are:

1. Tuberculosis
2. Scarlet fever
3. Diptheria
4. Typhoid group
5. Dysentery group
6. Cholera
7. Undulent fever

11. Sources of Water

(1) Rain
(2) Surface water (a) Streams
(b) Rivers
(c) Ponds
(d) Lakes

(3) Underground Water
(a) Springs
(b) Shallow wells
(c) Deep wells

Water in order of Purity

1. Artesian well
2. Deep well
3. Springs
4. Rain water
5. Large lakes (centre)
6. Rivers (mid stream)
7. Small streams
8. Large lakes (near banks)
9. Shallow wells
10. Rivers (near bank)
11. Ponds

12. Water Requirements

(1) In barracks
Each man - 20 gallons

(11) In camp
For drinking - gallon
other purposes - 4 gallons

These amounts have to be increased in hot climates and when troops are doing hard work.

(111) On the March
1 quart every 15 miles.

13. Impurities in Water

(1) In solution:
Salts and chemicals.

(11) In suspension
(a) Decaying animal and vegetable matter
(b) Insoluble minerals.
(c) Germs of disease.

14. The Testing of Water

(1) Case water testing (horrocks)

This test is a test-purifaction method and deals only with the degree of contamination of the water.

(11) Cases Water testing (poison)

This test is used to ascertain whether or not certain specific poisons are present in the water.

15. Purifaction of Water

Sterilization of water consists of killing all germs present. Some germs are not harmful and are very difficult to kill. Therefore, purifaction of water aims at producing a safe water supply which consists of :

(1) Protection of sources.

(a) From contamination by animals or human beings by fencing, prohibition of bathing, etc.

(b) Proper marking of water supplies.

(c) Policing - to prevent pollution.

(11) Clarification

To remove all possible suspended material.

(a) Sedimentation

Consists of allowing the water to remain in tanks until all suspended material has sunk to the bottom. This is a very slow method.

(b) Filtration

Consists of passing water through materials which held back the suspended material. Materials used are sand or cloths.

(c) Clarifying powder

Sedimentation may be assisted by the use of chemicals. The chief chemicals used are aluminum sulphate and alumino-ferric. These aluminum salts form a loose jelly when dissolved in water, entangling the suspended matter and carrying it to the bottom

Filtration--When water is filtered through a cloth the efficiency of filtration is increased by the use of the above mentioned chemicals which form a jelly on the cloth. However the effectiveness depends on the water being alkaline. If the water is acid, the jelly doesn't form or forms very slowly. Soda is therfore put into the water or added to the aluminum salts to make the water alkaline.

Two parts aluminum sulphate to one part sodium carbonate are used for best results as a clarifying powder.

(111) Additional Purification

Consists of destroying the harmful germs in the water

(a) Boiling

Simple and safe but only satisfactory for small quantities.

(b) Potassium Permanganate $\frac{1}{2000}$ for use against cholera.

(c) Iodine plus sodium Thiosulphate applicable only for small quantities of water.

(d) Acid Sodium Sulphate.

One tablet to one pint of water.

(e) Chlorine

Chlorine is the chemical most used for water purifaction. In dilute solutions, chlorine kills living matter and is not harmful to man. It has a disagreeable taste which however disappears or can be removed.

(1) Bleaching powder.

Contains not less than 25% of chlorine but is variable.

(11) Chlorosene

More stable than bleaching powder

Contains 30% Chlorine

(Food and Water Contd.)

(111) Chloramine

More powerful than Chlorine but the action i- not as rapid.

Tasteless

Works in presence of organic matter

Dosage 1 to 2 parts per 1,000,000 for one hou

Combined protection, Clarification and additional purificatio is used in the Army.

16. Water-borne Diseases

(1) Bacterial Diseases

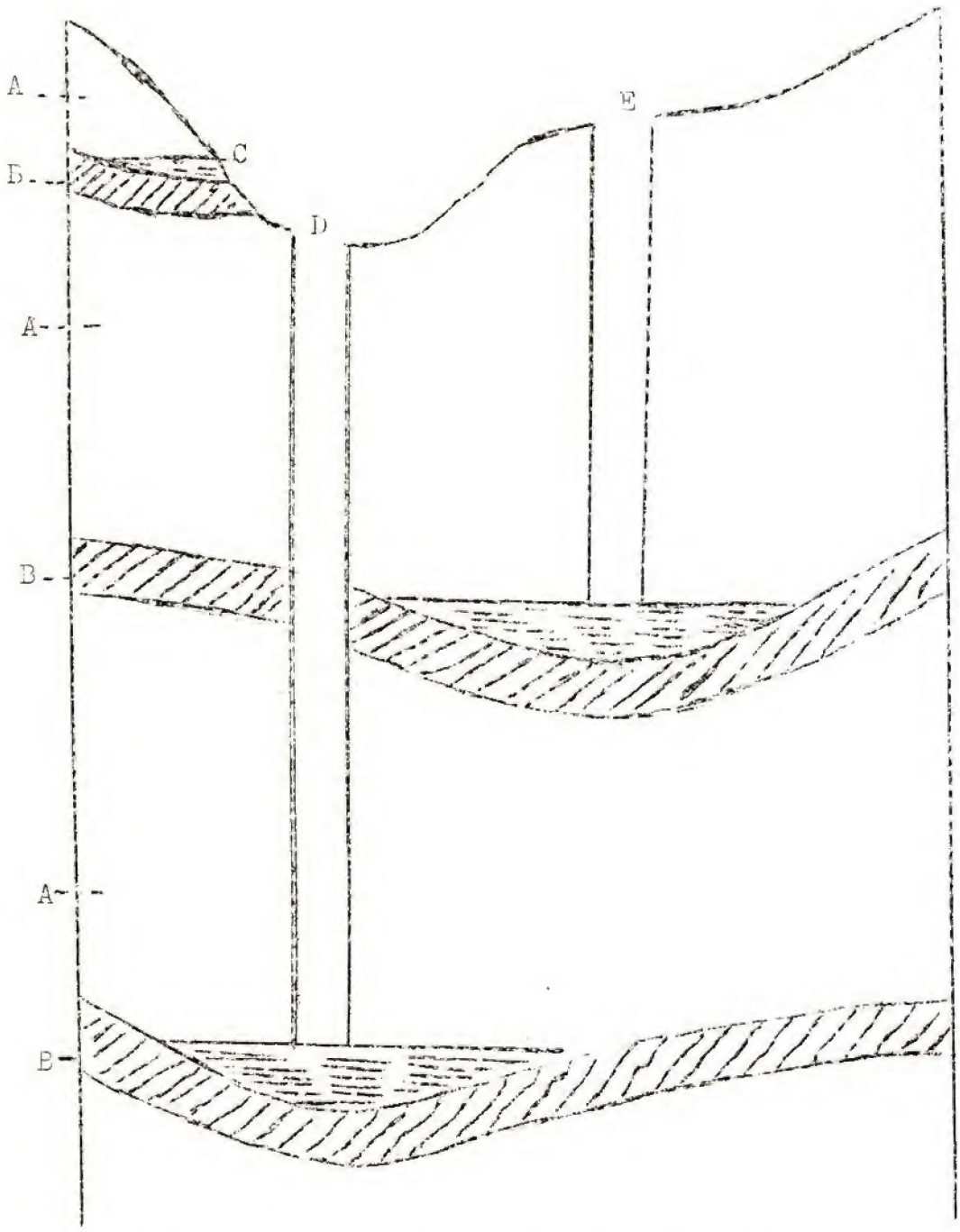
Typhoid fever
Cholera
Dysentery
Diarrhoea

(11) Worm diseases

(111) Diseases associated with water deficiency.

(1V) Poisons

FIGURE II



A...Permeable strata
B...Impermeable strata
C...Springs
D...Deep wells
E...Shallow wells

SOURCES OF WATER

Appendix to Precis No. 3.

DESCRIPTION OF CONTENTS OF A CASE, WATER TESTING, STERILIZATION. (HORROCK'S)

The contents of the case are as follows:

Six white enamelled cups, holding one-third pint of water when filled, nearly to the brim.

One black enamelled cup, with mark on the inside.

Two metal spoons, each holding two grammes when filled with Water Sterilizing Powder level with the brim. They are similar to the measure contained in the ½ pound tin of Water Sterilizing Powder.

One stock bottle of Cadmium Iodide and Starch Indicator Solution and one dropping bottle. Three drops of the Indicator Solution give a definite blue colour with water conteining 1 part per 1,000,000 of free chlorine.

Six glass tubes, or pipettes, each of such dimensions, that a drop of standard Water Sterilizing Powder solution delivered by it, when held in a vertical position, into a white cup filled wi with water, gives a dilution of chlorine of one part in a milli

Four glass stirring rods.

Tablets, Sodium Thiosulphate, gr. 1½ (No. 25).

Twelve Pipe cleaners.

Two copirs of Instructions.

INSTRUCTIONS

The object of the test is to find out how much Water Sterilizing Powder is required to produce 1 part in 1,000,000 of free chlorine per 100 gallons of water.

METHOD OF USING

Clarified water from the cart is used. The test is best carried out while the cart is being filled, an operation which takes about half an hour.

(i) Prepare a standard solution of Water Sterilizing Powder in the black cup as follows:

Put into the black cup one level spoonful of the solid Water Sterilizing Powder, and make it into a smooth paste with a little clarified water by stirring it with a glass stirrer and carefully breaking up all lumps. Add more water to the paste and fill the black cup with water to the mark on the inside. Stir vigorously and leave the glass ro in the black cup. This solution is never clear, as it contains lime in suspension, which, however, gradually settles Put into this solution one of the glass pipettes.

(ii) Fill the six white cups with clarified water to within a quarter of an inch of the top.

(iii) Add drops of the standard Water Sterilizing Powder solution from the pipette to the water in the white cups, so that they contain 1, 2, 3, 4, 5, 6, drops respectively. Stir the contents of each thoroughly with a clean stirring rod and leave this stirring rod in the black cup. Allow the cups to stand for half an hour.

NOTE: In order to add even drops of the standard Water Steril izning Powder solution to the cups, it is necessary that the top of the pipette and also the finger should be quite dry. Pressure of the finger on the pipette keeps the liquid from running out. By gradually releasing the pressure a continuous series of drops can be made to fall from the pipette. A novice can soon learn the method of dropping by practising a few times with the solution out of the black cup.

(IV) After half an hour add three drops of the Indicator solution from the dropping bottle to each of the white cups, and stir each with a clean stirring rod.

(V) Some of the six white cups will show no colour, some will show a blue colour. The first of the cups showing a blue colour, that is the one containing the smallest number of drops, is noted. Say cups 1,2,3, show no colour, but cups 4,5,6 show a blue colour, then cup No. 4 is the one to be noted. If none of the cups shows a blue color, the cups are washed out and the test is performed again with 7,8,9, 10,11,12 drops of the Water Sterilizing Powder solution in the cups.

(VI) Each drop of Water Sterilizing Powder solution in a white cup corresponds to a spoonful of Water Sterilizing Powder to a full water-cart of 100 gallons. Four spoonfuls of Water Sterilizing Powder, corresponding to the four drops are thus required for the tank of the cart in the instance given in the previous paragraph in order to give 1 in 1,000,000 part of free chlorine.

(VII) The Water Sterilizing Powder must not be added in the solid form to the water in the tank. It must be made into a paste with water in the black cup and diluted in the same way as in the preparation of the standard solution.

It is better to add a solution of 1 spoonful of Water sterilizing Powder at a time rather than a solution of several spoonfuls.

As the body of the water-cart is divided into compartments by means of baffle plates, the solution is divided equally between the compartments.

(VIII) The solution of Water Sterilizing Powder must be thoroughly mixed with the water in the tank.

(a) By filling the tank half full, adding the solution of Water Sterilizing Powder and then rapidly filling completely.
(b) By rapidly raising and lowering the cart by means of the draught pole.

(IX) The water in the tank should always be tested at the end of half an hour, when it should show a faint blue c on adding three drops of the Indicator Solution to a white cupful.

(X) Water for drinking must not be drawn from the cart until half an hour at least has passed. It should be left in the cart as long as possible, preferably until the following morning.

(Xl) If the water be used immediately after the lapse of half an hour it may have a slight taste of chlorine. The taste disappears in time. The water then contains nothing but lime salts, which are present in every hard water. It is, therefore, advantageous to prepare water well in advance of the time when it is required.

ESTIMATION OF AVAILABLE CHLORINE IN WATER STERILIZING POWDER

(a) To make THE STANDARD HYPO (Sodium Thiosulphate) SOLUTION: Dissolve one tablet of sodium thiosulphate, 1.9 grains, in the cleanest water available in one of the white cups in the case. Dilute until the cup is full to the brim and mix thoroughly by stirring gently (Strength, 0.05 per cent.)

(b) TO MAKE THE STANDARD WATER STERILIZING SOLUTION: Measure out a level spoonful of Water Sterilizing Powder into the black cup of the test box. Mix into a thin paste with water and dilute to the white line in the usual way. After it has been standing a few minutes, during which time the two spoons should be cleaned and rubbed over with a greasy rag, stir the solution of Water Sterilizing Powder thoroughly and transfer a level spoonful to a clean white cup about a quarter full of clean water.

(b) TITRATION: Pour into the white cup containing the diluted Water Sterilizing Powder solution about a spoonful of the cadmium iodide and starch indicator solution and half a scoopful of acetic acid. The contents of the cup turn blue-black. Add now level spoonfuls of standard hypo solution, stirring between each addition and counting carefully the number added. When the colour just disappears the number of spoonfuls of hypo added represents the percentage of available chlorine.

N.B. - Sterilized water must not be used in carrying out this test.

(Xll) To sterilize small quantities of water-petrol tins, pakhals, etc. Carry out preceding test and find out how many spoonfuls of powder are required for 100 gallons. Multiply the number of spoonfuls required by the number of gallons the smaller receptacle holds. The figure obtained will be the number of spoonfuls of the black cup solution it is necessary to add to the water in the receptacle.

EXAMPLE: (to Titration) The experiment required 26 spoonfuls of hypo to discharge the blue-black colour; the powder contains therefore about 26 percent available chlorine.

Superchlorination and Dechlorination of Water

This is the standard method of treatment adopted at the present time and makes use of the Horrock's test.

1. Superchlorination

By carrying out the Horrock's test the amount of sterilizing powder to give 1 part per million of free chlorine in standard scoops per 100 gallons is indicated. By this method 2 parts per million are required; consequently 1 extra scoop will be required per 100 gallons.

This amount of free chlorine will kill all pathogenic organisms in 15 minutes.

2. Colour Test

After the lapse of 15 minutes three drops of indicator solution are added to a white cupful of water from the tank. A deep blue colour should be given. If no colour, or only a faint blue appears the amount of water sterilizing powder is insufficient and an additional two scoopfuls of water sterilizing powder must be added to each 100 gallons.

The colour test is again carried out at the end of a further period of 15 minutes.

4. Dechlorination

Having proved the presence of an adequate amount of free chlorine by the colour test, two (0.5 gramme) tablets of Anhydrous Sodium Thiosulphate, which is much more stable than the crystalline salt, are added per 100 gallons of water.

Two anhydrous sodium thiosulphate tablets per 100 gallons of water will remove immediately any taste due to chlorine and is sufficient to remove 2 parts per million of chlorine.

Great care must be taken not to add the dechlorinating tablets before the full period of contact with chlorine has elapsed, or before a satisfactory colour test has been obtained.

NOTE: A source of water which is high in natural Ammonia content such as is often found in the case of rain water, may upset the Horrock's test by a false blue colour or may cause a lag in sterilization due to the formation of chloramine.

Consequently dealing with this type of water, it is advisable to extend the contact time to 30 minutes before the colour test is performed.

Case, Water Testing, Poisons

Acid Acetic (50%) B.P. Glacial)	OZS.	4	Zinc Granulated, Arsenic Free	OZS.	
Acid, Hydrochloric Arsenic free	"	4	Tabs. Sodium Iodide, 1 gr. (10) tubes	No.	
Caustic Soda Solution (o.5%)	"	2	Arsenic Tubes	"	
Ferrous Sulphate Solution (25)%	"	2	Bottle dropping, 10c.c.	"	
Platinum Chloride Solution (0.083%)	"	8	Corks, perforated	"	
Sodium Sulphide Solution (20%)	"	2	Porcelain Tile on Metal Standard	"	
Spirit Methylatus	"	4	Lamp, Spirit Copper, Complete	"	
Starch (1%) and Salt (16%) Solution	"	2	Stand, Test Tube	"	
			Tubes, Test, 6" by ¾"	"	

BIOLOGICAL TEST

Wherever possible note the effects of the water on fish.

CHEMICAL TESTS

Test 1.- Half fill a test tube with the water to be examined. add half an inch of acetic acid. Then add a few drops of sodium sulphide solution, which should not be milky in appear ance. A brown color indicates the presence of Lead, Copper or Mercury Compounds. A yellowish haze indicates gross amounts of Arsenic or Antimony Compounds. A white haze is due to sulph ur deposited from old solutions of sodium sulphide and is of no significance.

N.B.- Iron compounds give a brown colour with waters to which no acid has been added.

Test 2.- Arsenic and antimony in small yet poisonous amounts will not be detected by Test 1 as it is not sufficiently sensitive.

(a) To ascertain whether the reagents and apparatus are free from arsenic and antimony: Fit one of the fine glass tube into a clear cork. Place five or six pellets of the gran ulated zinc and an inch of hydrochloric acid in the test tube and fit in the cork and fine glass tube. After the lapse of about half a minute light the gas issuing from the top of the tube and place the whole in the clip on the lid of the box as in the illustration. Fix the white tile and push the tube towards it until the tip of the tube is almost touching it and the flame is spread over the surface of the tile. Care should be taken not to extinguish the flame.

If a black stain insoluble in hydrochloric acid duluted with two volumes of water appears, then there is contamination by arsenic and antimony, and the test must be repeated with fresh apparatus and reagents.

If there is no stain, then the water can be tested as follows:

(b) To ascertain if there is arsenic or antimony in the water. Take out the cork of the tube and add two inches of the water to be tested, and more hydrochloric acid and zinc, if gas ceases to be involved readily, replace the cork and fine glass tube, and after the lapse of half a minute light the issuing gas and proceed as above.

Test 3.- Separate test for the detection of Cyanide:- Half fill the test tube with the sample. Add half an inch depth of caustic soda solution and five drops of ferrous sulphate solution. Boil very thoroughly. Add hydrochloric acid until the contents of the test tube are clear. A blue colour indicates the presence of Cyanide. This colour is more pronounced if the test tube is allowed to stand for thirty minutes.

Test 4.- Separate test for the detection of Mustard Gas:- Place one solium iodide tablet in the clean empty drop bottle. Fill with platinum solution to the neck. Insert the stopper and shake until the tablet is dissolved. Half fill the tube with the water to be examined. Add five drops of acetic acid, shake gently. Then add five drops of the sodium iodide and platinum chloride solution, shake again. Add five drops of the starch and salt solution.

Blue colour shows the presence of mustard gas either old or new, or chlorine in sterilized water. To distinguish between mustard gas and chlorine: half fill a second test tube with the water to be examined and dissolve a dolium iodide tablet in it, add starch and salt solution. A blue colour shows chlorine and if the water has no smell or acid taste then it is safe to drink.

N.B. Sodium Iodide Solution will not keep more than two days.

Note: The water cannot be certainly regarded as free from poisons until the above tests have been repeated with negative results in two consecutive examinations.

All test tubes used must be most carefully washed and rinsed in clean water before being returned to the case.

NOTE: In order to add even drops of the standard Water Sterilizing Powder solution to the cups, it is necessary that the top of the pipette and also the finger should be quite dry. Pressure of the finger on the pipette keeps the liquid from running out. By gradually releasing the pressure a continuous series of drops can be made to fall from the pipette. A novice can soon learn the method of dropping by practising a few times with the solution out of the black cup.

HYGIENE AND SANITATION

PRECIS NO. 4

Conservancy

1. Conservancy in barracks is much more simple than in the field because the necessary appliances are proveded.

The waste products are human excreta, liquid refuse, dry refuse and manure. Dry refuse and manure are disposed of by contractors in barracks while the soapy water from cook-houses, ablution places, and bathing facilities are disposed of by means of normal drainage system. If a proper drainage system is not available other methods must be used.

2 Requirements

(1) Latrines

(a) in barracks - 6 seats per 100 men
1 additional seat for N.C.O's and Officers

(b) in the field

(1) Permanent Camps

5 for every 100 men up to 500
3 for every 100 men over 500

(11) Non-Permanent Camps

5 for first 100 men
3 for each additional 100 men
additional for N.C.O.s and Officers

(11) Urinals

(a) In barracks - as necessary
(b) In the field - to be given with appliances

(111) Ablution purposes

(a) In barracks - Wash basins on scale of 14%
(b) In the field - Bench 9 ft. long for 50 men

(1V) Baths

(a) In barracks - Slipper baths 1%
Shower baths 4%
Extra for N.C.O. and Officers
(b) In the field - Provided if possible.

3. Disposal of Human Excreta

Latrines and urinals will be constructed by the troops using them under technical supervision. The field Hygiene Section and the unit M.O. give advice to the O.C. on this matter.

Human excreta should be deposited directly into the ground wherever possible. Otherwise it should be buried or burned

When incineration is adopted, excreta should be burned in a closed incinerator.

Latrine Appliances

(1) The shallow trench latrine

Size 5 ft. long
2 ft. deep
1 ft. wide
2 ft. apart

Use

The shallow trench latrine is only satisfactory for short halts, bivouacs, and temporary camps of not more than three days' duration.

Essentials

(I) Trenches dig in rows.
(II) Surrounded by canvas screen.
(III) Personnel should squat astride the trench.
(IV) The turf should be carefully removed and placed behind the trench while the excavated earth is piled between the turf and the trench.
(V) After use, each person should cover the excreta with earth from the pile at the rear with some sort of a scoop left near the latrines.
(VI) Trenches to be filled in after every 24 hours or when contents six inches from the top. Oiled sacking or oiled paper plus the excavated earth is used.
(VII) Surrounding ground should not be soiled.
(VIII) Supervision by regimental sanitary police.

(II) Deep Trench Latrine

Size 10 ft. long
3 ft. wide
6 to 8 ft. deep

Accommodation - 5 seats

A deep trench latrine should be used in all camps of four or more days wherever the subsoil water permits.

Essentials

(I) Fly-proof superstructure of good timber with vertical sides and ends, a sloping back and containing five seats.

(II) The ground surrounding the trench for a distance of four feet loosened and a layer of oiled sacking placed over it, the ends turned down over the sides of the trench.

(III) The latrine should be surrounded with a canvas screen.

(IV) A duck board should be placed along the front.

(V) The seats should be cleaned periodically with creosol or other suitable preparations.

(VI) Bleaching powder put in each morning and evening.

(Vll) When the trench becomes filled to within three feet of the top the cover should be removed to a new trench and the contents covered with oiled sacking and earth.

(Vlll) The trench should be properly labelled when filled, in.

(lX) Supervision

(lll) Bucket Latrine

Essentially for use in standing camps, billetting areas, railway stations, or when subsoil water will not permit use of trench latrines.

Essentials

(l) Fly proof with fly proof receptacles.

(ll) Buckets coated inside and outside with oil.

(lll) Proper spacing of buckets to correspond to the apertures in the superstructure.

(lV) Removal of buckets when three-quarters full.

(V) Cleaning of buckets when emptied with 2½% creosol solution.

(Vl) Supervicion

(Vll) Proper disposal facilities of contents of buckets by:

(a) Otway's pit
(b) Closed incinerator.

Otways pit

(l) Pit 10 feet long, 3 feet wide, 6 to 8 feet deep.
(ll) The pit should be dug where there is no danger of contaminating the water supply.
(lll) The pit should be covered with stout timber and a layer of oiled sacking over it with soil over the sacking.
(lV) A hole is left in each end of the cover. One hole is covered with a well fitting fly proof box, which can be removed to provide an inlet for excreta. The other hole should be small and covered with a fly proof but not light proof type of box which allows the entry of air and also acts as a fly trap.

Urinals

(l) Shallow trench Urinal

Used as a temporary measure in temporary camps and bivouacs.

Capacity: One for every 250 men.
Size : Trench 10 ft. long
3 ft. wide
6 in. deep

(Conservancy Contd.)

(11) Trough Urinal

Best type of field urinal for day use. It is made of corrugated iron or plain galvanized iron in the form of a trough with a high back, the trough is raised on wooden supports so that the front is two feet three inches from the ground with a slight fall to a pipe leading into a soakage pit. The ends of the trough should be closed.

Capacity

1 trough 3 ft. long for every 100 men.

(111) Funnel Urinal

A soakage pit, 4 ft. by 4 ft. by 4 ft. is dug, filled with stones and covered over.

Four metal conical funnels or pipes with expanded tops, are built into the corners of the pit and some form of strainer is placed in the mouth of each funnel to hold back paper or other articles likely to cause blockage.

The mouth of the funnels must be large and not higher than 2 ft. 3 in. from the ground.

(1V) Bucket Urinal

May be used in conjunction with bucket latrines.

4. Disposal of Liquid Refuse

Water from cookhouses contains a considerable amount of fat in the form of grease, while water from ablution places and baths contains soap. Soil will not absorb water containing fat or soap, therefore these must be removed before the water reaches the soil, which otherwise will become clogged.

Mechanical and chemical methods are used for removing the fat in waste water.

(a) Cold Water Grease Traps

Principle: If hot water containing fat is run into an adequate amount of cold water, the fat solidifies, rises to the top of the water, and can be skimmed off.

The hot water inlet must be baffled, either by a submerged vertical inset or by a baffle plate. This baffle plate prevents the entering water from disturbing the layer of grease which forms on the surface of the water in the body of the trap.

The exit is similarly baffled to prevent the affluent carrying off the layer of grease. A floor baffle plate is essential to check the direct flow of water from inlet to exit, and this also serves to keep back sediment in the trap.

The size of the trap should be such that the amount of cold water in the trap is five times as great as the amou of hot greasy water likely to be added at any on time.

Form: Wooden or concrete box, with wooden or metal baffle plates.

Tea leaves and other debris from plates should be removed before washing up. Trap should be inspected twice weekly.

(b) Strainer Trap

A simple strainer through which the waste water passes may be used either alone or in connection with cold water grease traps.

Grass, straw, bracken, or similar materials will keep back some of the grease, soap, and suspended matter.

The straining material to be removed daily and burned.

A type suitable for temporary camps, consists of a perforated tin, containing the straining material, fitted in another tin, and the whole connected to a soakage pit by a channel which also contains straining material.

(c) Chemical Clarifying

In order to remove all the grease from water, chemical precipitants must be used causing the solid matter to settle as sludge or be taken out by a strainer.

Precipitants used are - alum, lime, ferrous sulphate and bleaching powder.

5. Final disposal of waste water, both water and ablution water.

When a water carriage system is available as in barracks and other permanent camps, the waste water, after passing through the cold water grease trap, enters the drains; as does bath and ablution water. In Camps the water must finally be disposed of into the ground. Channels through sand or gravel allow of soakage and filtration, and offer less danger of contamination of drinking water supply. As a rule it is necessary to resort to artificial pits.

(1) Soakage Pits

A soakage pit should be dug 4 ft. by 4 ft. by 4 ft. It is filled to within six inches of the surface with stones perforated tins, etc.

The pit should be covered with brush or sacking with earth on top.

These pits should be provided at each cook house, ablution place and bath house.

(11) Herring-bone Drainage

This method may be used when the level of the sub-soil water is too high to use soakage pits.

It consists of a series of connecting channels 1ft. wide and 1 ft. deep dug in a herring-bone pattern which allows evaporation and soakage.

(111) Surface Evaporation

In hot dry climates where soakage is impossible, water may be evaporated by using shallow earth pans 15 to 20 ft. square.

6. Dry Refuse

All refuse should be burnt whenever possible. If it cannot be burnt it should be buried deeply in a pit, and covered immediately with well rammed earth mixed with heavy oil.

Circular pits 2 ft. in diameter may be used in bivouacs for one night only.

All refuse should be collected in bins, or receptacles improvised from oil drums or biscuit tins, with covers and placed on raised stands.

Incinerators

One of most necessary sanitary appliances for camps.

Types: - three - Open, for temporary camps.
Closed, for standing camps.
Semi-closed, for temporary camps.

Essential points in the construction of incinerators:

(1) An impervious base of concrete or hardened earth.
(11) The air inlets must be ample and funnel-shaped, narrower on the inside, to produce a blowing effect.
(111) The fire bars should be placed loosely on their support rather than fixed.
(1V) The stoking apertures should be suitably situated so that fresh material can be added from above.
(V) The raking apertures must give sufficient room for efficient raking and cleaning.
(V1) A large chimney is necessary for a closed incinerator to ensure a good draught.
(V11) Water tanks should be built into the incinerator whenever possible so as to utilize the heat for provisions of hot water.

(a) Open Incinerators

(1) . Open circular Turf:

Round a circle, 3½ ft. in diameter, a wall, 1 ft. high is built of turf sods cut 9 in. wide, and 1 ft. long. Four air inlets cut at opposite points, and covered with short bars, or other strong supports: these inlets should be funnel-shaped with the outer and 1 foot wide.

Iron bars at a distance of about 2 inches from each other are placed across, and resting on the wall, which is then built up to a total height of 4 ft. 6 in.

Bricks or other available material can also be used in the construction of these incinerators.

(11) It is made of four sheets of corrugated iron wired, together and placed upright in the form of a square. Air inlets 9 inches square at the base of each sheet with five bars above the level of the air inlets.

(111) Single Trench Manure Incinerator

Consist of a single trench 9 ft. long, 6 ft. deep at one end and 1 ft. 6 in. deep at the other end and the mouth of which is spread out. The trench is covered with expanded metal measuring 9 ft. by 3 ft. With the help of an oil and water flash fire a trench of this size will burn the litter.

(1V) Cross Trench Incinerator

Consists of two trenches crossing at right angles. The expanded metal covering the centre portion must be supported.

(V) Basket and Cradle Incinerators

May be made from bailing wire or hoop iron woven into flat sheets, which are then wired together to form either a rectangular basket or a V shaped cradle. The basket is raised off the ground on four tins or other supports. The cradle type is suspended apex downwards from upright supports.

(b) Semi-closed Incinerators

(1) Corrugated Iron

The semi-closed iron incinerator resembles the open type except that it has a closable lid and feeding shelves.

(c) (Closed Incinerators

Closed incinerators may be used for burning excreta as well as wet and dry refuse.

(1) Closed Beehive

Circular and can be built of bricks or mud. It consists of a central chimney, semi-top feed through a close fitting lid, a raking door, five bars on a ledge with four air inlets.

(11) Horsfall Destructor

Built of steel plates lined with brick and placed on a concrete base. It has an effective draught with a high chimney made of steel plate.

(111) Underground Destruction

Consists of a chamber excavated in the side of a hill. The chamber is lined with brick.

7. Disposal of Manure.

Horse dung and stable litter are favourite material for fly breeding. In barracks disposal can usually be arranged by contractors. Other methods of disposal:

(1) Burning
(a) Single trench manure incinerator.
(b) Cross trench incinerator.
(c) Basket or cradle incinerator.

(11) Tight packing

The success of this depends on the fact that heat developed in fresh and fermenting manure when packed, will kill any fly maggots which hatch.

(111) Spreading

In dry hot countries manure may be spread out to dry. Drying ground should be oiled and the manure spread evenly to a depth of not more than two inches. When dry it is raked into heaps and burned.

8. Disposal of Carcasses and Slaughter-house Offal

Such material should be burnt in closed incinerators or destructors, otherwise it should be buried. Fatigue parties required; one man can excavate 30 cubic feet in the first hour and a total of 60 cubic feet (5' x 4' x 3') in four hour's steady digging.

Carcasses

Burial is slow.

Burning is equally difficult except in a special destructor.

The usual course is to adopt a combined method of burial and burning. This consists of removing the carcass to a distance from a camp, cutting open the belly and chest and removing the intestines and internal organs, which are then buried in a pit nearby.

The body cavity is then filled with hay or straw and set on fire. This will not consume the carcass but it will assist in drying it up and lessening the evils consequent on its gradual subsequent decay. 40 lbs. of hay or straw and one gallon of kerosene oil are required for dealing with one carcass by this method.

The carcasses of animals dying from communicable disease should be burned whole or buried in a pit containing quick lime

HYGIENE AND SANITATION

PRECIS NO. 5

Sanitation in Barracks, Hutments, Billets, and Transport ships.

I. Sanitation in Barracks

Life in barracks closely resembles that of a civilian community in that the necessary appliances are provided and maintained by various responsible departments. The conditions under which soldiers live are supervised and controlled by regulations, while practical measures for prevention of disease can be put into force effectively. However, soldiers live a communal life and are necessarily in close contact with each other, necessitating careful collective and personal measures.

(1) Accommodation

Accommodation should be so arranged as to limit the number to small groups and to space beds far enough apart to prevent droplet infection.

Standard allowed for each man in barrack rooms:

6 feet wall space
60 square feet floor space
600 cubic feet of air space. Air space above 10 feet from the floor will not be included.

Beds may be placed alternately head and foot to the wall to obtain the necessary space between heads.

Good barrack room discipline and constant supervision is essential.

(11) Ventilation

Air is a necessity of life, as it contains oxygen which is necessary in the production of body heat and energy.

The feeling of stuffiness and discomfort in a badly ventilated room is due to stagnation of air, together with a rise of temperature and humidity resulting from respiration.

A healthy comfortable atmosphere in a room depends on

(a) Temperature of 60° F - 70° F.
(b) Relative humidity not exceeding 75%.
(c) Gentle continuous movement of air at 3 feet per second.

(a) Natural Ventilation

(1) Diffusion
Diffusion takes place through bricks or other building material but is too slow to be practical.

(11) Wind Movement

(a) Perflation - By which wind blows into rooms through windows and other openings

(b) Aspiration - by which wind blows across the mouths of chimneys and ventilating shafts and thus sucks air up the chimney or ventilating shaft. This is an unreliable method. For greatest efficiency there should be cross ventilation shafts on the opposite side.

(111) Inequality of Temperature

It is the most efficient means of natural ventilation acting on the principle that heated air expands and grows lighter and rises. Inlets for fresh cold air should be about five feet from the floor arranged so as the incoming air is directed upwards and toward the centre of the room. Outlets for the warm heated air should be made as high as possible, preferably in the ceiling. Outlet shafts should be vertical and as straight as possible.

(b) Artificial Ventilation

Artificial ventilation is used where natural ventilation is not sufficient.

(1) Extraction

This is a means of extracting foul air which may be done by open fire places which heat the air and cause it to go out the chimney, or by extracting fans.

(11) Propulsion

A means of supplying fresh air by driving it through ducts into the room. It can be propelled by fans driving the air into the room at suitalbe intervals through openings which should be 8 feet from the fl

(111) Balance System

The most satisfactory artificial ventilation is by a combination of extraction and propulsion.

(c) These systems whether natural or artificial require supervision. If natural ventilation is used windows should be opened inside every morning. Upper sashes kept open to extent of one foot each night. Artificial methods used should be kept in good working order. Extra blankets should be provided if necessary for warmth rather than to cut down on the amount of fresh air, or to diminish ventilation.

Special arrangements may be required in workshops or garages on account of dust or carbon monoxide.

(111) Heating

Heating is closely associated with ventilation.

(a) Open fireplaces - Cause local overcrowding but considerably assist ventilation.

(b) Stoves - Used for warming unit, dining-rooms and bath houses. Economical but cause stuffy atmosphere.

(c) Radiators - Give uniform heat but tend to dry the air if not placed beneath fresh air inlets.

(d) Central Heating

If properly installed, gives the best results. Creates an even temperature, prevents overcrowding, and is economical except in cases of disconnected barrack blocks. It, however necessitates special methods for ventilation.

4. Lighting

Lighting must be sufficient by day and until "lights out' at night.

(a) Natural Lighting

(1) Window area should equal $\frac{1}{10}$ of the floor area and $\frac{1}{5}$ in Class rooms.

(11) Glazed windows should be used.

(111) The source of light should not be reduced by dust, paint curtains or screening.

(b) Artificial Lighting

Artificial lighting should be by electricity only. Lamps, candles, etc. do not give uniformity, cause carbon particles and harmful fumes to be distributed in the air.

5. Cleaning

Different types of barracks necessitate different types of cleaning. All floors should be cleaned regularly by the best method to prevent dust. All passages, annexes, baths, urinals and latrines should be scrubbed regularly.

6. Ablution Arrangements

(a) On a scale of 14%
(b) Proper drainage system
(c) All traps cleaned regularly

Baths

1% slipper baths, 4% shower baths with one extra of each type for N.C.O.'s and officers.

Swimming Baths

Not universally provided. If provided, the following measures should be adopted.

(1) Regular inspection of bathers.
(11) Provisions of urinals and latrines near the bath.
(111) Provision of showers and foot baths for use before entering the swimming bath.
lV) Provision of cuspidors for use without leaving the water.
(v) Periodic emptying and cleaning of the bath.

7. Drying Rooms

Drying rooms should be provided as drying clothes in barrack rooms creates increased humidity and creates a stuffy atmosphere.

8. Messing

A special building should be provided for cooking, messing washing up.

(a) Kitchen

Kitchen block should provide:

(1) Cooks lobby for clothing.
(11) Food preparation room, with benches, cupboards, two sinks with hot and cold water, proper draining boards and a vegetable machine.
(111) Cookhouse - fitted with proper cooking apparatus, heated by fires which prevent smoke, dust and undue heat, a washing trough and racks for pots and pans.
(1V) Serving pantry with combined hot serving counters.
(V) Meat larder.
(V1) General larder.

(b) Dining Room

Accommodation - 85% with 9 square feet of floor space and 20 inches of table space for each man.

Two washing up rooms. One for washing plates, rings, glasses. One for washing knives, forks and spoons.

(c) Cooks and Helpers Cleanliness

Special attention must be paid to the cleanliness and freedom from disease in all persons engaged in the preparing, cooking and handling of food. X-Ray examination for Tuberculosis should be carried out and Bacteriological examination if any suspicion of disease exists.

9. Ration Stores

Well ventilated. Dry and well lighted. Bread and meat stores should be flyproof and rat proof.

Chopping blocks, butchers knives and other appliances kept clean.

10. Institutes

The provision of institutes in barracks is an important factor in the preservation and promotion of health.

Purposes - Provide refreshments.
Provide reading, writing, recreation facilities.

Dangers - Overcrowding.
Improper sterilization of cups, glasses forks, etc.
Spread of communicable diseases.

Essentials - Medical supervision

11. Sanitation in Hutments

Hutments are usually provided for standing camps but may be used to avoid temporary overcrowding of barracks.

The standard of comfort is not as high as in barracks but sanitation should not be of a lower standard than in barracks.

Minimum accommodation for each man in rented buildings, huts and temporary quarters

40 square feet floor space
06 cubic feet of air space
Air space above 10 feet from the floor will not be included. C.A.S.F. R.O. 185

(1) Sanitation in Billets

Type of accommodation provided by the inhabitants of the area occupied. They are the usual form of quarters used when troops are not in close proximity to the enemy.

When troops have to be concentrated in an area, they may be put in close billets, when as many men as possible are accommodated in buildings and the remainder are bivouaced.

Purpose - To provide cover and give proper rest.

Types - 1. Billets with subsistence.
2. Billets with partial subsistence
3. Billets without subsistence.

Billeting parties should ascertain from the mayor, civil authorities, medical officer of health, local doctors or police, details of the local water supply, the conservancy system, the health of the local population and the existence of communicable diseases.

The local authorities are required to take such sanitary measures as may be needed to render the selected premises suitable, but the assistance of the troops is usually necessary , and advisable for the construction of additional cookhouses, latrines and washing places. Notices should be posted on the door of houses where it is undesirable to quarter men.

Cover is all that can be expected in billets on active service and any premises which are or can be made suitable for human occupation may have to be used. When it is not possible to put premises into a satisfactory sanitary condition, and no others are available, it is better that the troops should bivouac.

Accommodation in billets can seldom be provided on the same scale as in barracks, and overcrowding, particularly in close billets is unavoidable. Special attention must therfore be paid to ventilation, cleanliness of premises and conservancy

Satisfactory ventilation is difficult to obtain, unless officers and N.C.O.'s ensure that air inlets are kept open. Extra latrine, urinal, and washing accommodation should be provided, as such civilian conveniences are frequently inadequate and unsuitable. This work should be supervised by military sanitary personnel.

Water supplies must be supervised, and purification should be carried out by the military authorities where existing methods are inadequate.

The units in occupation are responsible for the sanitation of billets.

When the same billets are to be occupied by successive bodies of troops, it is of the utmost importance that they be left scrupulously clean, and in order that this may be done, it is necessary to have a final inspection, to prevent the common complaint that the billets have been left dirty by the previous occupants.

Improvised sanitary appliances should be left in a clean condition, or if no longer required should be dismantled, the pits filled in and the sites marked, and pointed out to the local authorities.

Only close sanitary supervision and good discipline will give satisfactory results.

(IV) Sanitation in Transport Ship

Before being fitted out, ships are inspected to determine the best use of space available, and the approximate numbers of the various classes which a ship can accommodate. They are also inspected, before embarkation, immediately before sailing, again after disembarkation.

Also a daily inspection is carried out during the voyage by the ship's captain, O.C. troops and Senior M.O.

More detailed daily sanitary inspections are carried out by the orderly M.O. and the N.C.O. i/c sanitation.

Medical inspection as Follows:

(1) Troops - One month before embarkation.
The day of, or before, departure from their station.
The day after embarkation and the day before disembarkation.

(11) Families.

(111) Ship's crew before sailing.

Messing

Sufficient table accommodation, minimum of 20 inches table space for each man.

Ablution

Wash basins on a scale of 4 per 100, with additional three basins for N.C.O.'s and officers.
Shower baths 2 per cent, additional 2 for N.C.O.'s and officers.

Latrine & Urinals

4 latrine seats for every 100 men up to 300
and 2 for every additional 100
additional 2 for sergeants.
Special care to ventilation and cleaning.

HYGIENE AND SANITATION

PRECIS NO. 6

Sanitation in the Field

1. The Commander of every formation and unit in the field is responsible for the sanitary condition of the area occupied by his command, irrespective of the period for which it may be occupie and for the enforcement of all orders regarding health and sanitation.

The Medical Service is responsible for advice and supervision, and for technical work beyond the capacity of the troops.

2. Adverse Conditions in the Field

(I) There is usually an overcrowding in the Field with a greater opportunity for spread of communicable diseases.

(II) Sanitary appliances and methods must be improvised.

(III) Men accustomed to barrack life, especially in barracks where all necessary sanitary appliances are provided, fail to realize the necessity for sanitation.

(IV) Water supplies are often very unsafe and methods of purification must be rapid.

(V) Insects and insect carriers are more numerous.

(VI) A soldier's vitality is lowered in times of stress.

(VII) Tactical considerations take precedence over sanitary considerations.

3. Camps Sites

(I) Nature of Surroundings:

Neighbouring towns and villages may be source of infection Broken ground is bad for sanitation, as it may harbour sar flies, snakes, vermin.
Swamps and banks of streams may provide breeding grounds for malaria-carrying mosquitoes.

(II) Water Supply:

Should be near at hand if military situation permits.

(III) Nature of Surroundings:

High ground with good drainage and covered with grass to be preferred.

Steep slopes should be avoided, gentle slopes facilitate drainage.

Large woods with undergrowth, and low meadows with thick grass are unhealthy.

Bottom of narrow valleys, ravines, newly turned soil to be avoided.

(IV) Approaches:

The site should have easy approaches off main line of traffic.

(V) Space

Sites should be large enough to permit of ample spacing y not too large, as difficulties in the sanitation of a straggling camp are increased thereby.

4. (Sanitation in the Field Contd.)

Lay out of Camps

The following points should be borne in mind in laying out a camp, with due consideration to military situation, necessity of concealment from the air.

1. The front of the camp should face prevaling wind.
2. Sleeping accommodations should be in front, with kitchens and messing accommodation nearby at one side.
3. The transport lines for animals and vehicles should be concentrated in special areas in the rear.
4. The conservancy area should be concentrated to leeward but not too far away and not in a situation likely to pollute the water supply.
5. The ablution area and water point should be at one side, away from conservancy area, and with drainage so arranged as to prevent waterlogging of the camp.
6. The camp roads, allowing away transit, should be so arranged that traffic through the camp for watering horses, and the delivery of supplies does not cover the cooking and messing areas with manure-filled dust.
7. Surface drainage through the camp should be provided.

5. General Camping Arrangements for a Force on the Line of March

A Staff Officer, accompanied by an Engineer Officer, a Medical Officer and mounted police, goes forward to select the ground. Before the force arrives, staff-officers of brigades etc., with unit representatives, go forward, receive instructions concernin the arrangements for the camps, and the ground allotted to them.

The Engineer and the Medical Officers examine the water supply and make any necessary arrangements for purification and distribution of water.

The M.O. gives advice regarding siting of latrines, conservancy areas, etc. Inquiries about sinkness among local inhabitants, or other conditions which may affect the health of the troops.

Sanitary arrangements are made as soon as possible, before arrival of troops to prevent fouling of the ground.

On arrival of a unit at a new camp, the lay-out of the camp should be explained to all ranks before they fall out. On striking camp the whole area must be left clean. This should be ensured by a staff Officer and a M.O. of the rear party.

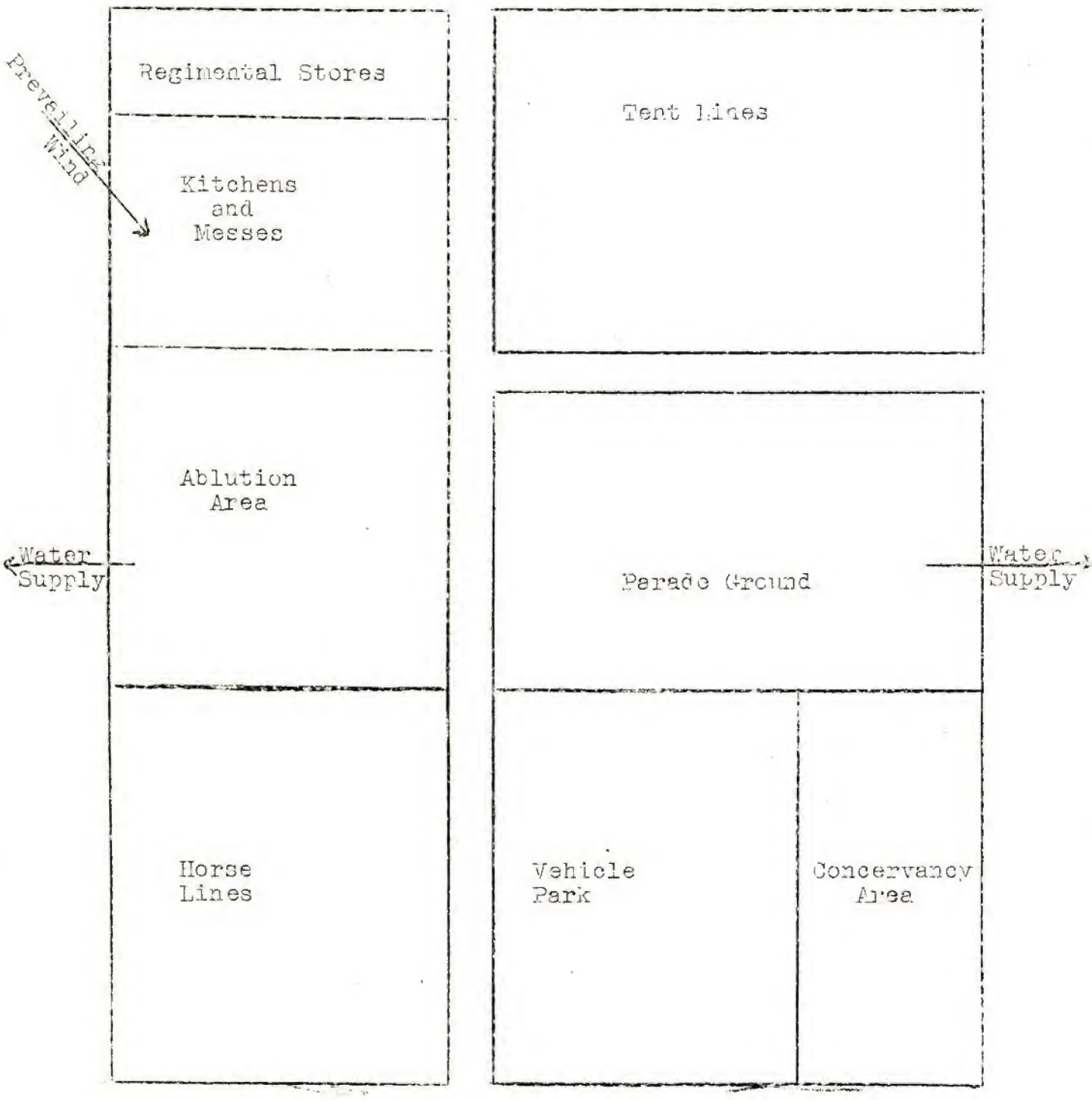
6. Sanitation in Trenches

The trenches should be well drained and "duck Boards" provided. Special attention to ventilation is required in dugouts. This presents difficulties when gas-proofing is a necessity, and there is a special danger of carbon monoxide gas poisoning when lighted braziers are used.

Ratproof food safes, improvised from tins, should be provided and all food refuse should be stored in rat proof receptacles until removal is possible.

Sandbags should be hung up at convenient points in the trench for reception of rubbish and no refuse of any kind should be thrown over the parapet.

FIGURE III



LAY-OUT OF A CAMP SITE

PRECIS NO. 7

Control of Communicable Diseases

1. Communicable diseases are those which are caused by living germs transmitted from one person or animal, either directly or indirectly to another preson or animal.

Each communicable disease is caused by a distinct species of germs.

Epidemic

A disease is said to be an epidemic when it spreads rapidly and attacks many people at the same time.

Endemic

An Endemic disease is one which is constantly present to a greater or less extent in any particular place.

Scoradic Cases

Isolated cases of a disease which occur from time to time, and not connected with an epidemic.

2. The Chain of Infection

(1) Source -
- Cases
- Contacts
- Convalescents
- Carriers
- Animals

(11) Route -
- Food
- Water
- Fomites
- Dust
- Contact
- Animals
- Insects

(111) Destination
- The susceptible victim.

3. Breaking the Chain at the Source

(1) Isolation of cases, contacts, convalescents for the required period.

Different types of disease require different periods of isolation. The purpose of isolation is to prevent people suffering from a specific disease, from coming in contact with a susceptible victim and by keeping contacts segregated during the incubation period of the disease.

(11) Location and Isolation of Carriers

A carrier is a person who may have had a disease and continues to pass germs out of his body for some time after he has recovered, or he may never had any signs of symptoms of the disease but may harbor the disease producing germs and occasionally discharge them.

(Control of Communicable Diseases Contd.) Page 2

(111) Destruction or Isolation of Infected Animals

Animal sources of disease are less important than human sources but certain diseases may be contracted from animal particularly domesticated ones.

e.g. Tuberculosis from cattle
Glanders from a horse
Plague from a rat
Undulant fever from Cows, Goats, hags and their products.
Tularemia from rodents

(1V) Breaking the Chain at the Route

(1) Food

Inspection
Handling
Storage
Cooking
Serving
Cooks and their helpers

As previously detailed in Precis No. 3

(11) Water

Protection of Source
Prevent contamination
Water purification

As previously detailed in Precis No. 3

(111) Fomites

Fomites are articles which are capable of absorbing or retaining infected material, such as blankets and bedding, or soiled clothing.

Contaminated dressings should never be touched by hands and should always be incinerated.

Bedding, clothing and blankets should be disinfected or disinfestated after having been used by someone suffering from a communicable disease.

(1V) Dust

Germs of disease may live for some time in dust. Cleanliness is essential both to minimize dust and to prevent further distribution of disease by this means.

(V) Contact

By isolation of a person infected with a disease he is prevented from spreading it by contact.

(V1) Animals and Insects

Animals and insects are far more important as a route of infection than as a source. They act either as a direct carrier or indirect carriers by acting as hosts to parasites. Such animals are known as disease vectors. This route of infection may be destroyed in two ways:

(I) Protection from infected vectors as previously detailed.

(II) Destruction of the vector and its breeding places.

The most important disease vectors include.

House fly
Mosquito
Lice
Bed Bugs
Fleas
Ticks and Mites

The House Fly.

They breed on the human and animal excreta and in doing so they swallow the germs of disease like typhoid fever, cholera. dysentery and diarrhoea and at the same time their feet become contaminated.

Human food, like milk, jam, cheese, uncooked meat, are also attractive to flies, with the result that they may feed alternately on faeces and food.

They may also assist in spreading tuberculosis, leprosy and small-pox.

Life History

Breed on excreta, manure, food, decaying refuse. One female may lay from 600 to 2000 eggs during her lifetime.

In 8 to 24 hours eggs hatch into oval white glistening maggots which after developing for some days burrow into the earth to a depth of 2 feet, near manure heap or latrines.

After a resting stage of 2 to 4 weeks, according to temperature they develop into flies.

Average life of a fly is about 3 to 7 days in summer.

Fly Control

(I) Destruction of eggs, maggots and grubs.

(II) Destruction of flies.

(a) By swatting.

(b) Fly papers, coated with sticky material:
Resin 62 parts
Castor Oil 26 parts
Honey 12 parts.

(III) Fly traps, useful in hot countries.

(IV) Poisons:

Sodium Arsenite	1%
Glycerine	5%
Sugar	5% dissolved in water.

This must not be used near cookhouses or mess tents due to poisonous nature.

For General use, in mess tents, billets offices.

Formaline	½oz.
Sugar	½ "
Lime water	½Pt.
Water	½Pt.

(V) Fly Spray

Crude kerosene may be used in the open.

Mosquitoes

The two most important genera of mosquitoes are the Anopheles and the Culex. Many species of the Anopheles spread Malaria and some species of the Culex spread yellow fever and Dengue fever. In all cases the female only is the vector of disease. Female mosquitoes feed on human blood, and on that of animals. They suck the blood after biting through the skin. If the blood is from a human and contains malarial parasites, the malaria spreading mosquitoes undergo a cycle of development in the body of the mosquito and after a certain period the mosquito is able to transfer them to other human beings when it may bite.

Preventive Measures

(1) Protection against mosquito bites by wearing of mosquito nets, boots, veils, gauntlets, or the use of repellants applied to the skin. A good preparation known as "P.C. Oil" consists of:

Oil of citronella	1½ parts
Liquid paraffin	1 part
Cocoanut Oil	2 parts
Carbolic acid	1 per cent

Destruction of Adult Mosquitoes

(a) Swatting

(b) Spraying with 5% formalin, cresol solution or other suitable preparation.

(c) Fumigation with 5 oz. cresol per 1000 cubic feet.

(d) Traps.

(e) The destruction of long grass and coarse herbage.

Prevention of Mosquito Breeding

These measures are effective but difficult and expensive:

The principles are the following:

(a) The removal of possible breeding places by drainage.

(b) The effective screening of collections of water, such as wells and cisterns.

(c) The use of natural enemies, such as larvicidal fish and aquatic plants.

(d) The use of (i) oil which forms a film on the surface of the water and so prevents the larvae breathing, or (ii) chemical substances, such as Paris Green, which, when spread on water and eaten by the larvae, poison them.

Drainage of marshes is carried out by means of open subsoil, herring-bone drains.

Streams should be canalized, woods removed and the edges kept free of vegetation so as to give no cover for larvae.

Water supplies, such as wells and cisterns, should leave all openings screened.

Larvicides

(1) A cheap and efficient larvicide consists of a mixture of one part of kerosene oil with two parts of crude heavy oil.

(11) Paris Green.

Lice

Lice have always been associated with wars.

Diseases spread by Lice

Typhus fever	- Conveyed by lice, probaly by excreta.
Relapsing fever	- By excreta of infected lice.
Trench fever	- By excreta of infected lice.

Lice feed on blood, so they keep close to the human body, living and breeding among the hairs of the body and in the seams of clothing, especially underclothing.

Destruction of Lice

Includes both, treatment of the person, and of infected clothing.

Treatment of the Person

Consists of stripping, removal of the body hairs. Washing of the whole body with hot water and soap or, better still with an emulsion consisting of equal parts of olive oil and kerosene oil.

Treatment of the clothing

Treatment of the person is useless unless the clothing is treated at the same time.
Best method is by heat. Dry heat at 140 deg. F. will kill lice and nits in half an hour.

Other less Effective Methods

Ironing, brushing with stiff wire brushes, application of preparations.

Disinfestation is better carried out at an organized disinfestation centre.

Bed-bugs. - Eradication

(1) Through disinfestation with hydrocyanic acid gas.
(11) Use of sprays
(111) Formaldehyde gas.
(1V) Blow lamp.

Rats.

Rats suffer from plague and the infection is carried to human beings by fleas. They may also be the means of spreading epidemic jaundice, rat bite fever, dysentery and other intestinal diseases.

Prevention

Protection of food supplies in rat-proof receptacles and stores, collection of refuse in rat-proof receptacles followed by removal and destruction.

Rat-proofing buildings, drains, and ship cables.

Destruction of Rats.

(1) Trapping
(11) Poisoning such as: Phosphorus, cyanide, squills, strychnine. Fumigation of rat holes may be carried out with a sulphur dioxide gas, or the exhaust of a motor car.

5. Breaking the Chain at the Destination

Immunity is the power to resist disease.

(1) Natural immunity
(11) Acquired Immunity

Natural Immunity

A power possessed by everyone but it varies in degree in different individuals and at different times in any one individual

It may be increased by special attention to environment, sanitation and general bodily and mental welfare.

Acquired Immunity

A power which may be obtained by an attack of certain diseases which makes one immune; or by repeated small doses of infection which are not sufficient to cause the disease but increases the protective substances in the body to an extent great enough to prevent the disease. Acquired immunity may also be artificial.

Artificial Immunity

(1) Active
(11) Passive

In active immunity innoculations are given which cause the body to build up resistive substances.

In passive immunity the resistive substances called antisera, are injected and the body is only a passive factor. Passive immunity is of value only for a short time while active immunity is of value for long periods and sometimes for life.

Example of Passive artificial Immunity

(1) Diphtheria Antiserum

Examples of Active Artificial Immunity

(1) Vaccination against Small-pox
(11) Inoculation against Typhoid Fever.

PRECIS NO. 8

Disinfection and Disinfestation

1. Definitions

(a) Disinfection is the process by means of which disease germs are killed and thus rendered harmless.

(b) Disinfestation is the process by means of which insects, vermin, and their eggs, which cause disease or annoyance are destroyed or removed.

Methods used for disinfection are effective for disinfestation but the reverse does not hold good.

2. Object

To break the chain of infection. Until recent years, disinfection was directed at destruction of germs in the air, but it is now realized that disinfection should aim at destroying germs at their sources.

3. Methods

(A) Physical Agents

(i) Light

Only the blue violet and ultra violet rays kill germs; the source of the light is not important but the germicidal action depends on the nature and intensity of the rays. Direct sunlight kills germs and is effective in hot countries but is usually of an uncertain quantity and can not be relied on.

(ii) Heat

Fire has always been considered the great purifier, but the burning of articles is often unjustificable when other methods of disinfection can be employed. It is useful for destroying rubbish and articles of little value and is the best method of dealing with organic refuse and infested discharges from the body.

(a) Dry Heat

A temperature of 150°C. for an hour will destroy all forms of life, including the spores of germs, but such heat cannot be applied to fabrics and similar materials which are damaged by any temperature over 110°C.

Lice and their eggs are killed by 60°C. in half an hour but this temperature is not sufficient to kill the attendant virus of diseases such as typhus and trench fever.

The temperatures at which materials are damaged by dry heat are as follows:

Cotton wool turn brown and is damaged at (284°F. (140°C.)

White flannel becomes yellow and brittle in half an hour at (270°F.)

White flannel becomes brittle but will recover after (240°F.) (115°C.)

(Disinfection and Disinfestation Continued.) Page 2

White flannel becomes yellow but retains its strength after 4 hours at (220°F.) (104°C.)

Leather and fur are damaged by repeated exposure for ½ hour at (175°F.) (80°C.)

Leather and fur are not damaged at (140°F.) (60°C.)

Hot air acts as a gas and its penetration is very slow; dry air is also a poor conductor and therefore the heat does not spread. It is therefore only useful for the disinfestation of verminous clothing in the absence of disease, and for this it may be used in an ordinary baking oven, in the dug-out hot air disinfestor or in Orr's Hut.

Orr's Hut

Constructed of corrugated iron, wood or even tent material. It has double walls and roof. The space between is packed with a non-conducting material such as mud. The floor is mortal with numerous holes which allow hot air from a pit under the floor. Fire pots are put in the pit. The temperature is kept at 140°F.

DUG-OUT DISINFESTOR

This consists of a chamber with an annex. The fire box is in the annex and heats a large flue which runs through the chamber.

(b) Moist Heat

(i) Boiling will kill immediately all disease germs except a few spore bearers. Useful for disinfecting crockery, utensils, towels, linen. It however fixes stains in fabrics, which should therefore be soaked before boiling.

(ii) Current Steam

Current steam is the same as that which emerges from the spout of a boiling kettle. Temperature 212°F. Examples of its use in the field are:

The Serbian Barrel

This apparatus may be improvised from a barrel or similar receptacle to be used as the disinfecting chamber, as a 5 gallon oil or cresol drum for the boiler, and some short lengths of piping.

The lid of the barrel is padded with old blanket, or similar material, so that, when placed in position, it is practically steam tight, a hole is made near the top of the barrel for the insertion of the steam inlet pipe, a second hold being made in or near the bottom for the escape of steam. The drum to be used as a boiler has two pipes inserted on one side.

The first pipe extends inside the drum to within about 1 inch of the other side and to a height of about 18 inches outside: This is used for filling and also acts as a safety valve when the boiler is in use. The other pipe, which only passes a short distance into the boiler, has an elbow bend and carries steam from the boiler to the barrel.

When the parts are ready, the barrel is sunk into a convenient bank or is heaped around with earth to conserve heat, care being taken to allow for the free escape of steam from the opening at the bottom. The oil-drum boiler is placed over a trench fire and filled with water, the steam pipe being inserted into the barrel through the opening near the top. In an improvised apparatus the pipe joints can be wiped with clay.

Packing Case Disinfector

This disinfector may be made with any tin or zinc-lined packing case on the same principles and with a boiler as in the Serbian barrel. The case and its lid should be lagged all around with old blanket between the wood and the tin or zinc lining.

Lelean sack Disinfector

The Lelean sack is a compact, portable, and reliable disinfector for indoor use, but the material of which it is made tends to crack after being folded repeatedly and must therefore be coated frequently with a special paint to render it steam tight. It has insufficient insulation for outdoor use in cold climates.

Steam is supplied from a boiler and is conveyed by a flexible hose to the closed end of the sack. The sack is filled, inverted and hung up so that steam enters at the upper end. (Downward displacement).

Disinfection is complete when steam has issued freely from the lower end of the sack for two minutes.

Mule pack Disinfector

A portable, inexpensive and easily worked disinfecting plant suitable for pack transport. It consists of two oblong boxes of light wood logged with blanket and lined with light metal. Each box has a hole for a steam inlet pipe and another steam escape hole. An oil drum boiler provides the heat.

One box may be used while the other is being packed with material requiring disinfection.

By this method it is possible to disinfect 27 blankets an hour.

Crockery Disinfector

This disinfector may be made out of a five gallon oil drum with a hole in the top to allow a steam pipe and the bottom of the drum cut out.

The drum is placed over inverted plates, mugs and other dishes.

(iii) Pressure steam is that generated under pressure; it has a higher temperature and is more effective but requires a more complicated system, trained personnel, and is very expensive.

(B) Chemical Agents

(i) Gases

Disinfection by means of a gas is useful for rooms, but it is not so effective for clothing or bedding, as the gas has little powers of penetration.

(Disinfection and Disinfestation contd.)

Success is greatest when a large volume of gas is produced in a short time and when the atmosphere is moist and warm. The room or parts of a building to be treated must be sealed to prevent the escape of gas; all apertures, including the door used by the working personnel, must be sealed and special rolls of gummed paper are issued for this purpose.

(a) Formaldehyde

This is the gas which is most used, as it is a very effective germicide and it is easy to use. It is not highly dangerous, as its presence can easily be detected; moreover it does not cause discoloration or destroy leather, fur, rubber or webbing. It is produced by the action of bleaching powder or potassium permanganate crystals on formalin. Much frothing occurs and the receptacle used should therefore be deep. Two pints of formalin and two and a half ounces of potassium permaganate are required for every thousand cubic feet of space. The room should be at 70 F. and 70% humidity. This method is only suitable for small rooms.

(b) Hydrocyanic Acid

Chiefly used for disinfestation of very large buildings. It is extremely poisonous, odorless, and colorless which makes it very dangerous to use. It may be mixed with tear gas to indicate its presence. Requires used by specially trained personnel.

(c) Sulphur Dioxide Gas

Obtained by burning sulphur and is only of real use against larger vermin.

(d) Ethylene Oxide

Very efficient type of gas but must be mixed with Carbon Dioxide to keep it from exploding.

(ii) LIQUIDS

(a) Cresol

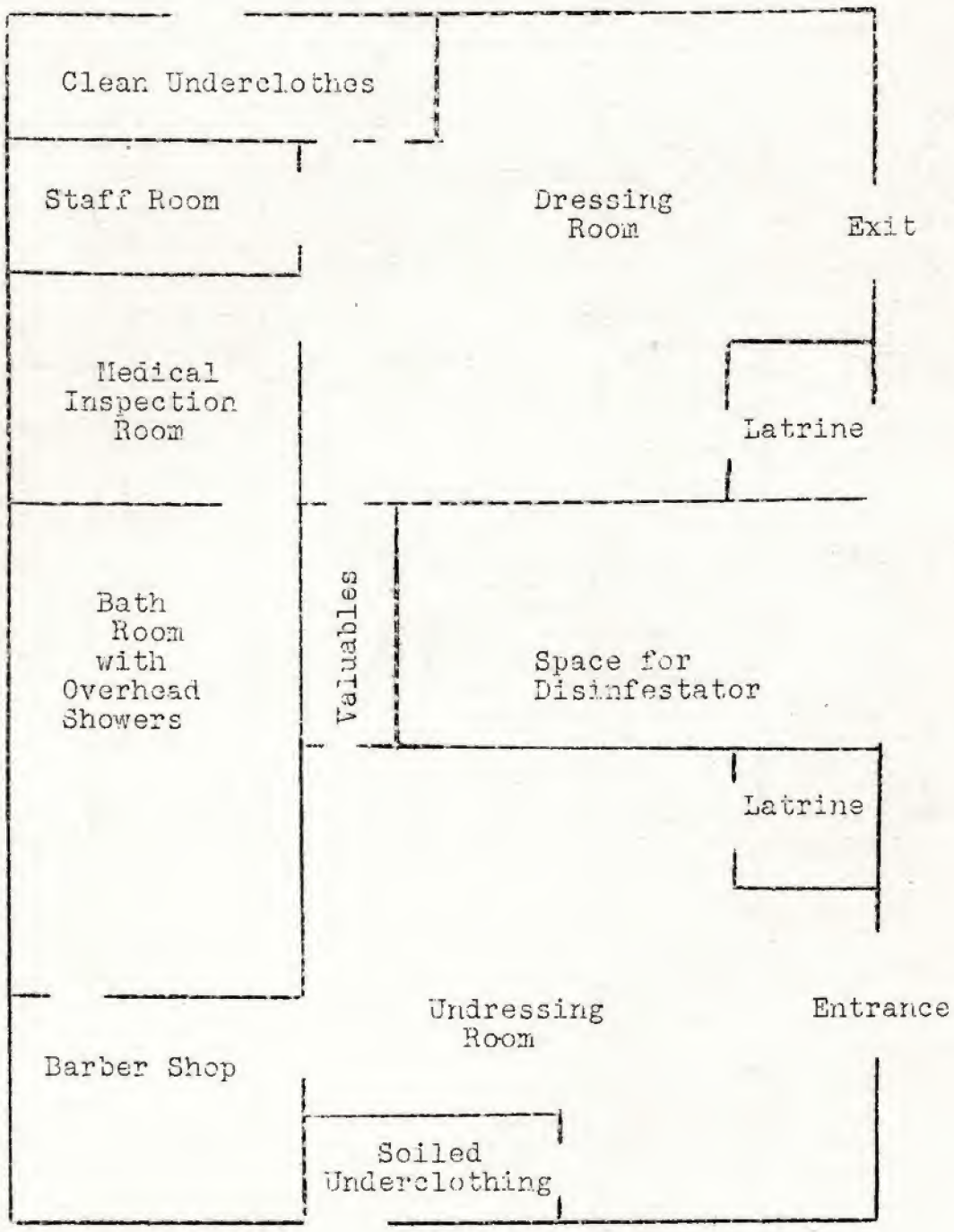
Cresol is the most universally used liquid disinfectant for general purposes. It forms a good emulsion with water. There is always a tendency to use cresol in much stronger solutions than necessary and thereby cause unnecessary waste.

The usual strength for general purposes is 1 per cent (1½ ounces to the gallon of water) but, if the time for disinfection has to be decreased, the strength may be increased to 2½ per cent (4 ounces to the gallon) or even 5 per cent. Infected clothing and bedding is soaked in 2½ per cent.

(b) Formalin

Very effective disinfectant. It is used as a spray. Eight ounces of formalin to a gallon of water is necessary for 400 square feet of surface. Daily spraying of rooms is a very useful preventative measure against droplet infection diseases.

FIGURE I



DISINFESTATION CENTRE

(Disinfection and Disinfestation contd:)

(c) Carbolic Acid

Used mainly as a 5% solution for surgical purposes.

(d) Mercury

Mercury bichloride and mercuric biniodidide used only for hands.

(e) Lime

Little practical value except in the form of Quick Lime, freshly slaked.

4. Disinfection and Disinfestation Centres

Disinfection may be complete, local, or special. Complete disinfection consists in the disinfection of a whole room and its contents. Local disinfection consists in the disinfection of the bedstead and bedding recently used by an infection case the walls, the floor, and other surfaces for a distance of six feet all around the bed and of all articles within this area, including the equipment and locker and its contents.

Special disinfection is carried out for special articles such as bedding, clothing, towels and handkerchiefs in the case of venereal diseases, or eating and drinking utensils in the case of diseases spread by droplet infection.

Clothing, bedding and equipment: All articles not likely to be damaged in the process are disinfected by steam. Leather goods, clothing with leather strapping, fur, rubber, webbing, and books are sprayed with formalin.

DISINFECTION CENTRE

The area or building to be used as a disinfection centre should be divided into a "dirty" side, on which infected articles are received and a "clean" side for the disposal of disinfected articles; these two sides should be through the disinfector.

Arrangements should be made on the dirty side for disinfecting the vehicles used for the transport of infected materials, and personnel employed in handling infected materials must be suitably protected against infection.

Storage accommodation should be available on the clean side for disinfected articles until they can be removed.

DISINFESTATION CENTRE

Troops on field service are liable to become infested with vermin and should be disinfested periodically; this can best be done in a disinfestation centre, where facilities are provided for bathing, the supply of clean underclothing and the disinfestation of outer clothing, blankets and equipment.

A disinfestation centre, like a disinfection centre, should be organized so that there is a dirty arrival side and a clean departure side, progress from the former to the latter being through the bathroom for personnel, the laundry for underclothing and the disinfector for other articles.

The method of laying out a disinfestation centre can best be understood by reference to the diagram shown in Fig. 1 attached, but modifications of all kinds will, of course, have to be made to suit local requirements.

Disinfestation will not be effective unless infested men are separated from clean men, and it may be necessary to employ regimental police or special enclosures to keep them apart.

HYGIENE AND SANITATION

PRECIS NO. 9

Hygiene of the March.

1. Object

To enable men to arrive at their destination in fighting conditions.

2. Preparation for Marching.

(1) Preliminary training

(a) Training should be regular and progressive.

(b) Constant attention should be paid to socks, boots personal hygiene, water duties and conservancy.

(11) Feet

(a) Constant care and attention to the feet.

(b) Regular foot inspections by the Medical Officer.

(c) Sore feet may increase the energy expended by 20% and increase the temperature of the body $1^{o}F$.

(111) Boots

To be properly fitted over socks and while in full marching order. the leather must be kept pliable and in good repair to prevent chafing and bruising.

(1V) Clothing

Two pairs of well darned socks are necessary in order that a change to dry clean socks is possible. All clothing should fit properly.

(V) Equipment

No unauthorized equipment to be worn or carried, buckles and straps properly adjusted.

The maximum load should not exceed 55 lbs. $6\frac{3}{4}$ ounces.

3. Immediately prior to the March

(1) Personnel known to be unfit for marching should be in unit transport. Corns, blisters, ingrown toe nails to receive special attention.

(11) Visits to the Latrine

A routine visit to the latrine before a march is necessa

(1$\frac{1}{1}$. Waiting

W
Troops should not be kept standing for a long period before beginning the march.

(V) Meals

Food supplies the necessary energy for marching, but heavy meals prior to a march cause discomfort. An earlier reveille may be required in order that enough time may elapse for the proper digestion of food prior to marching. Light meals of bread, butter and tea should be taken before the march.

(V) Water

Water carts and bottles should be properly cleaned beforehand and filled with purified water.

4. During the March

Marching may be defined as walking under conditions not controlled by the inclinations of the individual.

(1) Pace and Speed

	Length of Pace	Paces a Minute	Yds.a Min
Quick time	30"	120	100
Stepping out	33"	120	110
Double time	40"	180	200

(11) Heat Control

Only about $\frac{1}{3}$ of the energy Supplied by food is converted into energy for work.

The other $\frac{2}{3}$ of the energy supplied is converted into heat.

	Men at rest	Men marching
Expenditure on march in 5 hrs.	117 cal.	579 cal.
Heat produced	233 "	1,157 "
Total	350 "	1,736 "

In a 15 mile march approximately 1200 calories of heat must be dissipated. Heat is gotten rid of by radiation, conduction, and convexion but chiefly by evaporation from the skin. This may be obtained by proper exposure of the skin during halts and proper ventilation the ranks. The ranks should be changed around to avoid men in the rear from getting all the dust.

(111) Water Requirements

Loss by perspiration amounts to 2 pints every 7½ miles. Untrained troops in hot climates lose more.

Water discipline is necessary to prevent men from drinking from unauthorized sources and to prevent overdrinking

Water discipline is necessary to prevent men from drinking. One water bottle holds 1 quart of water. At the end of 7½ miles there should be a halt and water bottles brought into use.

At 15 miles water bottles should be used and refilled.

At 22½ miles water bottles again used and refilled, if the total march is 30 miles.

The amount of water necessary depends on the length of the march. There should never be a deficiency. Regimental water carts should be refilled as necessary.

Thirst can be diminished by sucking pebbles, chewing gum, by avoiding to smoke, and keeping the mouth shut.

Halts.

Ten minutes halt each hour plus long halts for meals. Rest should be complete as possible.

Equipment except respirator removed, clothes opened up and a comfortable position assumed. Men who are accustomed to smoking can use this opportunity to smoke. A final halt may be necessary before entering camp to allow men to relieve themselves.

5. Conservancy:

Shallow trench latrines) Provided at halts if necessary,
) but always filled in and the site
Trench refuse pits) marked prominently.

6. Mental Stimulation

Monotony--has depressing effect and hastens fatigue.
Band--singing--whistling--marching at ease help very much.

7. Position of Medical Officer--Water Detail--San. Personnel

M.O. at rear of column.
Prior to the last halt before arrival at camp he should go forward to advise on the selection of water provision and sanitary arrangements.

Water detail--march with water carts.
Sanitary Personnel--in rear of their Coys. except when required to go forward at halting places.

On Completion of the March

(a) Latrine and Urinals--Accommodation of some kind must be made ready by the Sanitary Personnel who are with the advance party.

(b) Layout of camp--Location of latrines--urinals, etc., explained to men before they fall out.

(c) Food

Hot sweet tea is best "muscle restorer" and should be served as soon as possible.
Fatigue and camp duties--main meal served from the travelling kitchens.
Alcohol may be served on recommendation of M.O. after severe exertion but only if shelter and rest available and just before men turn in--produces a feeling of comfort--induces sleep.

(d) Foot Inspection

Feet should be inspected by platoon officers after every march. Following routine carried out:

(i) Remove boots and dry them.

(ii) Remove socks and wash feet in cold water. If tender rub with rubbing alcohol or alum solution.
Then dust with foot powder--Salixylic Acid 3%
-Zinc Oxide 10%
-Powdered Talc 87%

(iii) All blisters or sores treated by M.O.

(iv) Put on clean dry socks and shoes.

(v) Wash out and dry socks taken off--stretch and rub them soft--darn any holes.

(vi) If this procedure cannot be carried out in full, a change of socks--or shaking or changing to opposite feet--airing the feet--rubbing them vigorously with dry towel will give relief and keep them healthy.

(e) Cleanliness

Opportunity for bathing and washing underclothing to get rid of sweat. If not possible rub body with towel.

HYGIENE AND SANITATION

PRECIS NO. 10

Venereal Disease

1. Responsibility

The prevention of military ineffectiveness through venereal disease is mainly a disciplinary matter. It therefore concerns chiefly the commanding officers of units and formations. Primary responsibility does not rest on the Medical Service. As military authorities have powers of control not enjoyed by civilian authorities, there should be no excuse for neglect of this question.

Venereal disease is an important cause of military ineffectiveness due to sickness, and must be controlled in the interests both of the troops and the public. This can be brought about only by vigorous action on the part of commanding officers.

2. Reporting Sick

"In every unit there shall be an order directing that a soldier who is suffering from venereal disease is to report himself sick without delay. This order will be brought to the attention of all personnel of the unit at intervals not exceeding three months, care being taken that it is specially brought to the notice of all recruits on joining. Concealment of venereal disease will be dealt with under Section 11 of the Army Act" - K.R. & O. 1939 Para. 442 (Section 11 A.A. refers to punishments for neglecting to obey garrison or other orders).

3. Penalties

(a) The medical officer will forward to the Officer Commanding the unit and the paymaster, Forms M.F.B. 869 showing the date venereal disease has been reported. Stoppages of pay amounting to 75 cents per day for a soldier, and $2.00 per day for an officer, will be made (C.A.S.F. R.O. 351). At the completion of treatment forms M.F.B. 869 will again be made out by the M.O. and forwarded as above. The stoppages of pay will then cease.

(b) Segregation from fellows.

4. Prevention

The question of prevention may be approached as follows:

(a) Education of the soldier.

1. Approved printed instructions to be retained in the possession of all ranks and called for at Kit Inspection. (M.F.W. 132 or M.F.W. 132A)

2. Lectures - The M.O. of a unit should arrange through the Commanding Officer to give lectures to the men on venereal disease. The following are suggested headings for lectures.

(i) Prevention of contact

Abstinence from sexual intercourse.
All professional prostitutes are dangerous.
Certificate of health displayed by many professionals.
no guarantee against disease.

(ii) Main Venereal Diseases

Gonorrhoea, "Clap" "[illegible]" "[illegible]" etc.
S

(Venereal Diseases contd.)

(ii) Main Venereal Diseases

Gonorrhoea, "Clap" "Dose" "strain" etc.
Syphilis, "hard chancre"
Soft chancre
One of all of above may be contracted at the same time.

(iii) Instructions - Penalties

Must report to M.O. immediately symptoms appear.

Loss of Pay.

(iv) Warning re Prophylaxis

Must be early to be effectual. Danger of extra-genital infection. Condoms not a definite guarantee against disease. All barracks should be equipped with prophylactic rooms.

3. Emphasis must be laid upon the added risk of venereal disease due to alcoholic excess. Every effort towards the establishment of sound moral views ust be made, the chaplains, Y.M.C.A. and other such agencies being requird to co operate in the elevation of the moral standard of the soldier.

(b) Inspections

Commanding Officers are responsible for having their men periodically inspected. These shall be surprise inspections, forming part of the ordinary foot and other health inspections. Venereal disease inspection on such occasion shall be made only by the Medical Officer in private.

(c) Prophylaxis

The medical officer of a unit is responsible for seeing that adequate prophylactic treatment is available for the personnel of his unit. In the army, "Prophylactic Stations" or "Early Treatment Centres" as they are sometimes called, are set up at convenient places for the use of troops. It is important that only trained medical orderlies be placed in charge of these centres, and that they thoroughly understand the proper technique in carrying out prophylactic treatment.

Prophylactic tubes of calomel ointment (30%) are available at medical inspection rooms to all men on request.

(d) Administrative Action towards general Control

In Canada the procedure has been to obtain from the infected soldier, if possible, the name of the girl responsible. The local M.O.H. is then notified and an attempt is made to find the girl and have her report for treatment. Medical officers will co-operate in every way with the local M.O.H. and also the local civilian police in this matter.

(Venereal Disease contd.)

Medical officers should periodically report to higher authorities on the venereal disease situation, especially if it is prevalent amongst the troops, or if orders regarding same are not being properly enforced.

(e) Exercise

The provision of facilities for healthful exercise and amusement, outdoor and indoor, by day and in the evening, is essential, and it is the duty of regimental officers to organize athletic and social recreation for the men under their command.

5. Brief Notes on Venereal Disease in the Great War

About 400,000 cases of venereal disease amongst the British Forces were treated during the last war.

Gonorrhoea	66%
Syphilis	24%
Other V.D.	10%

The ratios of admission per 1,000 per annum of all troops was:

1914	U.K.	51.8	Egypt	93.7	France -
1915	-		-		-
1916		36.7		64.3	23.7
1917		37.8		28.2	-
1918		43.0		51.8	32.0

The incidence of venereal disease in the last war differed in the various countries. The variety of factors involved makes it impossible to venture more than a surmise as to the probable causes of these differences, but it will be reasonable to suppose that it was closely connected with the proximity of troops and access to large centres of population. A considerably larger proportion of the troops in the United Kingdom than in France was stationed close to large towns, and their opportunities for venereal exposure were consequently greater.

The Dominion Forces showed a higher rate of venereal disease than the troops of the United Kingdom. This fact can be understood when it is considered that the average British Soldier on leave proceeded to his home, whilst an overseas soldier usually found his way to London or other large centres, and with no home interests had perforce to seek more artificial amusements.

R.C.A.M.C. TRAINING CENTRE

SIGNS AND SYMPTOMS OF GAS POISONING

The commonly used war gases are grouped according to their general effect on the human body. Signs and symptoms of gas poisoning according to these various groups are as follows:

I. BLISTER GASES:

The two main gases in this group are "mustard" and "lewisite"

(a) Mustard Gas:

Symptoms begin to appear from one to six hours after exposure. Generally the first to be noticed is a burning pain in the eyes with profuse watering; this may be associated with marked spasm of the eyelids so that the patient may be unable to open his eyes. Later, inflammation of the conjunction sets in, and sometimes in ulcer forms on the cornea. Rarely, the deeper parts of the eye are affected. It must be remembered that the wearing of the respirator affords complete protection from this type of casualty.

Skin injuries are the result of contamination of the skin by the liquid itself, or exposure for some time to the vapour given off by the liquid. Skin injuries from the liquid begin to show in four to twelve hours (rarely, one to two days), after exposure, and vary from slight redness to severe burns in which blebs containing a watery fluid appear towards the end of the second day.

Although painless in the early stages, such injuries are painful if blisters have developed. They tend to become easily infected and are slow in healing.

The vapour is particularly liable to attack those parts of the skin that are normally moist, such as the armpits, groin, scrotum, etc. Burns in these situations are always painful.

If the vapour is inhaled, severe inflammation of the air passages may develop, and secondary infection with bacteria may give rise to broncho-pneumonia which often proves fatal. The severe oedema and congestion of the lungs which occur in poisoning from choking gas are not seen in those suffering from the effects of mustard gas.

(b) Lewisite

Lewisite is similar to Mustard Gas but acts more rapidly on the body. Blisters develop twice as quickly. Liquid effects are as follows:

(i) Eye - immediate pain - eye closes in a few minutes.
(ii) Skin - stings immediately. Redness in 15 minutes and blisters in 1 hour.

Vapour effects are:

(i) Eye - no delayed effect.
(ii) Skin - blisters are more painful but not as deep.
(iii) Internally - worse than mustard.

(Signs and Symptoms of Gas Poisoning contd.)

II. CHOKING GASES

These gases are usually used in high concentrations and if exposure is prolonged, they are quite deadly. The four main gases in this group are phosgene, chlorine, di-phosgene, and chloropicrin. Their general effects are as follows:

When inhaled they cause severe irritation of the air cells in the lungs. In consequence an intense congestion sets in and fluid is poured out from the capillary blood vessels into the air cells, bringing about an oedema of the lungs, so that the normal exchange of gases in the lungs (absorption of oxygen and excretion of carbonic acid gas) is interfered with; in addition, the loss of fluid brings about a concentration of the blood. The patient thus suffers from an insufficient supply of oxygen to his organs and tissues. In severe cases so great an area of lung is thrown out of action that the patient dies of suffocation.

In addition to damaging the lungs, many of these substances cause injury to the lining membrane of the air passages and, by causing an intense congestion of the trachea, bronchii and bronchioles, add to the difficulty in breathing.

There are three types of cases met with, name .

(a) Mild - the patient suffers from headache, suffocating feeling with pain in the chest, slight cough, frothy expectoration and some difficulty in breathing but none of the signs or symptoms are severe. There is quick and complete recovery.

(b) Severe - violent onset, pain in chest, cough, shortness of breath, skin is cold, clammy, bluish in colour and lungs fill with fluid. The face is deeply engorged and red or even plum coloured and the pulse is full and breathing rapid. In the most serious cases, the patient has a grey pallor with purple or lilac coloured lips, weak pulse and rapid shallow breathing, and is sometimes delirious or even unconscious.

(c) Delayed Action - signs and symptoms are at first similar to the mild cases. These disappear but within 2 to 24 hours there is a violent onset of more acute symptoms. In all cases therefore, when men have inhaled such gases, they should be kept under observation and made to rest for 24 hours. In the majority of cases the symptoms are well established by the time the patients reach the field ambulance, and in fatal cases of poisoning from these substances death occurs within the first 24 to 48 hours after exposure.

-----oOo-----

Chlorine - is less poisonous than phosgene.
Di-phosgene - has the same effects, but in addition irritates the eyes.
Chloropicrin- is the most irritating of the choking gases. It also affects the eyes and upsets the stomach.

(Signs and Symptoms of Gas Poisoning contd.)

III. NOSE GASES

These gases are also known as "poison smokes". They are "D.M.", ".A.", "D.C.". When inhaled in weak concentrations such as are met with in the field, these substances give rise to intense irritation in the nose and throat, and a burning pain along the windpipe, also pain in the teeth and gums, headache, mental dullness, depression, and stomach upset. Symptoms are similar to those of a bad "hang-over". More rarely temporary paralysis of the limbs is seen. All these symptoms disappear fairly rapidly and sufferers very rarely become seriously ill, though they may be unfit for work for a period varying from a few hours to a few days.

These gases contain arsenic, but not in sufficient quantity to cause death. It is used chiefly for its moral effect. If untrained troops take off their respirators, the enemy may send over a more lethal gas. "D.A." and "D.C." gases are less severe than "D.M."

IV. TEAR GASES

"C.A.P." is the one most frequently used. Others are "K.S.K." and "B.B.C."

These cause immediately an intense burning pain in the eyes with much watering and spasm of the eyelids. These gases are purely harassing and are used for moral effect.

V. PARALYSANTS (i.e. prussic acid gas)

These gases are rarely used. They affect the central nervous system and give rise to the following signs and symptoms: giddiness, mental confusion, headache, blurring vision, p ain in the chest, laboured breathing, convulsions, and finally failure of respiration and of the heart. In the case of large doses death is almost immediate.

VI. SYSTEMIC POISON

"Arthur" gas. This gas which is extremely poisonous causes an acute anaemia. Mild cases - very tired, vomiting, pale, skin turns yellow in 48 hours. Moderate cases - in addition to above there is haematuria (bloody urine). Severe cases - develops in 4 to 9 hours. Shivering - difficulty in breathing - pains in back and chest - bloody urine. Kidney function destroyed - death.

R.C.A.M.C. TRAINING CENTRE

TREATMENT OF GAS CASUALTIES

I. BLISTER GASES

A. Preventive Treatment (before signs have appeared).

(i) Liquid Mustard

The treatment, which should be carried out at the earliest possible moment, should consist of the following:

Eyes

Flush eyes with warm water or salt solution (one teaspoonful to one pint of water). Flush for ten minutes. Use no less than one pint of solution. Do not bandage eyes (free flow of tears assists drainage). Evacuate to medical post.

Skin

Remove contaminated clothing immediately. If gas has soaked through clothes casualty best prevented by cutting away the affected part of clothes. Swab skin to remove any contamination. Apply anti-gas ointment No. 1 or No. 2. If No. 1 ointment or bleach paste is used it must be washed off within one to two minutes as it is irritating to the skin. If ointment or bleach paste is not available, swab with a solvent, or failing this, use soap and water. Speed is important as blisters will eventually develop if parts are not treated within five minutes.

It must be realized that once mustard gas in the form of liquid has been in contact with the skin for more than a very few minutes, penetration to a greater or less extent has already occurred, and that no treatment will neutralize the resulting damage, but efforts must be directed towards preventing the greater severity of the burns by the removal of mustard gas which still remains on the skin or clothing.

(ii) Mustard Vapour

Wash out eyes with water.
Remove clothing.
Wash body with soap and water.
Put on clean clothing.
Wash eyes again.
Do not use bleach paste or bleach ointment.

(iii) Liquid Lewisite

Eyes

Waste no time, wash out eyes immediately.
Use solution of baking soda and water.
Evacuate to medical post as soon as possible.

Skin

Remove gross contamination from hands and face.
Remove clothing and swab any gross contamination.

(Treatment of Gas Casualties contd.)

(iii) Liquid Lewisite - Skin-contd.

Apply anti-gas ointment No. 2. Anti-gas ointment No. 1 is useless for Lewisite. If ointment is not available, use bleach paste, as for mustard gas, or soap and water. If bleach paste is used it must be rubbed off within 1 to 2 minutes.

(iv) Lewisite Vapour.

Lewisite vapour is treated on the same lines as mustard gas vapour.

B. CURATIVE TREATMENT - first stage -

(i) Mustard Gas (Liquid or Vapour)

Eyes

All eye cases are necessarily evacuated to a medical post. The eyes are washed out as indicated in the preventive treatment. Apply eye shades which are easily improvised. The eyes are not bandaged.

Skin

Once redness has developed, soap and water only is used in the next course of treatment. Do not use bleach paste or ointment. All cases of redness and multiple blisters must be evacuated to nearest medical aid post. If blisters have developed apply a patch dressing. Do not prick blisters in the field, but leave this to the medical officer (danger of infection).

Breathing Tract

Evacuate to the nearest medical post, if there is any hoarseness of voice, even without eye or skin signs, as there is great danger of pneumonia.

(ii) Lewisite (Liquid or Vapour)

Same treatment as for mustard gas, but blisters must be pricked in the field even if no medical officer is available. The danger of arsenic poisoning is greater than from infection.

II. CHOKING GASES

These cases are serious regardless of mildness of signs. Adjust respirator if still in gassed area. If respirator is lost use a damp cloth. Keep the man warm with plenty of clothes and hot tea or water. Do not give alcohol and do not allow to walk--no smoking and evacuate the man as soon as possible. (Remove clothes if contaminated with diphosgene or chloropicrin.) The essentials of treatment are rest, warmth and oxygen. Further treatment carried out by the medical service is as follows:

II. Choking Gases - contd.

Oxygen should be administered, under the orders of a M.O. if the patient's colour becomes of a blue tinge. If the patient's colour changes, either to the plum-coloured or pallid variety, it should be given continuously (except for five minutes in every half-hour), by means of a Haldane or other suitable apparatus until the colour returns to normal, and no relapse occurs when the administration is stopped.

In early cases in which severe symptoms are developing, bleeding (up to 20 ounces) will do good; when the blood becomes concentrated and tarry in appearance, the infusion of intravenous injection of one to two pints of normal saline solution may be of value.

III. TEAR GASES

Encourage the man and adjust respirator. Removal from the poisonous atmosphere will bring rapid relief. Casualties should therefore be fit to return to duty within a few hours. A few may develop inflammation of the conjunctiva. In such cases, washing the eyes with warm water, normal saline solution or weak boric lotion will bring about a rapid cure. Unless conjunctivitis is very severe these cases are not evacuated.

IV, NOSE GASES

Encourage the man and adjust respirator. Remove the outer clothing and shake well. As soon as possible man should leave contaminated area. Inhalations of chloroform and washing out of the nose and mouth with a solution of bicarbonate of soda--one teaspoon to a glass of water--often relieves the pain. Alcoholic drinks help overcome depression. Smoking aggravates the condition. In the majority of cases removal from the poisonous atmosphere and rest for a few hours are all the treatment that is necessary. Do not evacuate.

V. PARALYSANTS

Immediate treatment is necessary. The patient must be at once brought into fresh air, and, if the breathing is failing, artificial respiration by Schafer's method should be begun without delay. This, which is by far the most important measure in treatment, may be followed or a accompanied by other means of resuscitation, such as the giving of heart stimulants.

VI. SYSTEMIC POISON GAS

Adjust respirator. Stretcher case--hot tea, no alcohol.
Evacuate to nearest medical post.
Later--blood transfusions.

----oOo----

PROTECTION AGAINST GAS IN THE MEDICAL POSTS

I. General Notes

The R.A.P. will be divided into two separate areas; one for the cleansing of contaminated wounded, and the other for the treatment of ordinary casualties. Once men have been cleansed in the first area they may be admitted to the second for treatment.

The staff of the R.A.P. must be trained in anti-gas duties. In addition two or more men will be required from units for the decontamination of wounded personnel.

Special stores will be required. They include bleaching powder, anti-gas ointment, pyjamas, blankets.

In addition to the R.A.P., unit decontamination centres may be set up. If so, gassed cases that are not otherwise wounded will report to these centres where appropriate treatment and decontamination will be effected. If evacuation should be found necessary for any of these cases, arrangements will be made with the R.M.O. for their ultimate disposal.

Wounded	- R.A.P.
Wounded and gassed	- R.A.P.
Gassed (contaminated)	- Unit Gas Centre
Gassed (requiring evacuation	- Unit Gas Centre and then further evacuated by arrangements made by the R.M.O.

Individual measures taken for protection against gas include respirators, capes and rubber gloves, goggles, anti-gas ointment.

Gas Section of R.A.P.

In entering this section all persons must wipe their boots in a tray of bleach powder. There will be attendants in full protective clothing who will remove contaminated clothing from the patients. The patients will move on then to avoid other contaminated persons. Other attendants, if blisters have not formed will apply anti-gas ointment where necessary, and remove in one minute by washing with soap and water. If blisters have formed no ointment will be applied. Mustard gas blisters are opened by M.O. and Lewisite blisters should be pricked by a sterile needle or pin by anyone on account of the danger of arsenic poisoning. The patient is then dressed in fresh clothing and further treatment carried out by the R.M.O.

While the A.D.S., M.D.S. and C.C.S. will have separate accomodation for gas cases it is unlikely that casualties will reach them without previous decontamination. However with the use of aircraft spray it is conceivable that decontamination at these posts may be required and if so some arrangements will have to be made for change of clothing, showers, attendants, etc.

II Collective Measures Against Gas.

Measures specially designed for collective protection include, (a) the neutralization of the poisonous substances or, (b) their removal from dugouts, shell-holes, etc. and (c) protective devices for keeping the gases from entering such places as dugouts, cellars, etc. used as aid posts, dressing stations, etc.,(d) gas warnings or alarms, (e) warning signs.

(Protection Against Gas in the Medical Posts - contd)

1. Neutralisation

Should the ground in the vicinity of the R.A.P., A.D.S. etc. be contaminated with mustard gas, it should be covered with a mixture of chloride of lime and earth, in the proportion of 1 to 3. If the chloride of lime (bleaching powder) is not available the area should be covered with three inches of fresh earth or other inert material. This will prevent the escape of vapour in a dangerous concentration. If pure chloride of lime is brought into contact with liquid mustard gas, the resulting chemical action is so violent that a fire will result and dangerous fumes are given off.

2. Ventilation

Gas present in the air can be removed by ventilation. Dugouts and confined spaces are cleared rapidly and effectively by means of a fire, but care must be taken that the air and ground outside such places are free from gas before the fire is lighted; otherwise, the fire will merely serve to draw gas into the dugout. For the same reason it is essential, while a gas attack is in progress, to extinguish all fires in dugouts and shelters. If this is not done, gas will be drawn into them from the outside air.

In shallow trenches and dugouts, anti-gas fans or fans improvised from ground sheets, will produce sufficient draught to clear away the gas.

3. Protective Devices for preventing the entrance of gases into dugouts, buildings etc., used as medical posts.

The following methods of "gas-proofing" have been successful:

Gas Curtain - Method I

A frame of 4-inch by 1-inch timber, covered with blanket material, is fixed in the entrance flush with the wall, sloping outwards at an angle of 20 degrees from the vertical.

Anti-gas material is cut to the required size so that when fastened at the top of the frame, it will close the entrance completely and leave about nine inches on the ground. Three pairs of laths are nailed horizontally to the curtain, to keep it stretched. The laths on the inside must be one foot shorter than those on the outside so as to clear the frame. The lowest of the laths should be four inches above the ground. In no circumstances must it touch the ground.

All wires and piping must pass through the frame, which may be widened on one side to allow of this, and the hole through which they pass must be made gas-tight. They must not interfere in any way with the adjustment of the curtain.

Method II.

It is sometimes convenient, as, for instance, in the case of an aid post, to place the gas-proof curtains outside the entrance to avoid narrowing the passage. In this case two sloping frames covered with anti-gas material is nailed to the top of the frame with a lath, to prevent tearing. In the absence of anti-gas material, wet blankets will be of use.

The curtains should not be less than three feet apart, so as to allow a man to stand between them and to adjust one before raising the other. This distance must be increased for dressing stations to allow stretcher cases to be carried in.

Openings in the side or in the roofs of shelters and cellars must be provided with curtains or closed with sand-bags so that no gas can enter. Care must be taken to provide means for closing ventilating shafts and flues.

When not in use, curtains must be kept rolled up and held with a loop of string over a nail, so that they can be readily released. Curtains must in no circumstances be let down, except for their proper use of for inspection.

Anti-gas cloth is treated with a special solution before issue and units are responsible for keeping gas-proof curtains moist with it or with water.

Gas-Proof Doors

The construction and maintenance of gas-proof doorways are normally carried out by the engineers working in conjunction with the gas officer of the unit.

4. Gas Alarms.

Both sound and detectors are used to give warning to or to indicate the presence of gas.

(a) Sound Alarms.

The R.A.P. will be warned of a gas attack by either a local alarm sounded in the forward area or by a general alarm (siren) which is held at unit headquarters. The local alarm is sounded for all forms of gas, while the general alarm indicates a cloud attack. The "All clear" signal will be two long blasts repeated at intervals of five seconds.

A.D.S., M.D.S., C.C.S.

For the protection of wounded and medical personnel, these units will see that alarm arrangements are provided and understood.

(b) Detectors

The basis of detectors consists of a yellow paint which turns red on contact with liquid blister gas. The vapour of blister gas does not give any indication on the paint. The detectors consist of:

(i) Detectors, spray

These are indicators painted with detector paint. Their purpose is to indicate the fall of aircraft spray. They will be used as a warning for sentries, look-outs, etc. Small areas of vehicles, tarpaulins, etc. may be treated with detector paint to give similar indications.

(ii) Detectors, Ground

These consist of material painted with detector paint which, when brought into contact with a suspected contaminated surface, will give an indication if free liquid blister gas is present. Their chief purpose is to indicate whether an area is safe to cross for troops whose legs and feet are unprotected.

5. Warning Signs

Warning signs consist of triangular signs with the word "Gas" written on them. They will be placed on the edges of contaminated areas or to mark dumps of contaminated material. They will be timed and dated when placed in position.

----oOo----

Officers Course

DAY - 1

1 - DEFINITION OF A MAP

A representation on a flat piece of paper of a certain area of ground.

2. DEFINITIONS

(a) Topographical Forms.

Basin, Col, Crest, False Crest, Dune, Defile (natural and artificial) Estuary, Escarpment, Foreshore, Gorge, Main Feature, Pass, Plateau Re-Entrance, Saddle, knoll, Salient or Spur, Under Feature, Undulating Ground, Water Course, Water Shed.

(b) Technical Terms.

North Points. (True, Magnetic, Grid)
Bearings (True, Magnetic, Grid)
Contour, Contour Interval or Vertical Interval Detail, Fall of a River, Fixed Point, Form Line, Gradient, Graticule, Grid, Grid North, Hachures, Horizontal Equivalent, Latitude, Local Magnetic Attraction, Longitude, Magnetic Variation, Meridian, Orienting or Setting a Map, Plotting, Ray, Resection Section.

DAY - 2

1. CONVENTIONAL SIGNS
(See M.M.R. Chpt. IV)

(a) Object

(b) Nature

(c) Roads (Letter indicates width)

A. Can handle two stream of traffic.

B. Can handle one stream of traffic, but occasionally two streams.

C. Can handle one stream of traffic but only occasional passing place.

(number indicates surface)

1- Can handle any kind of traffic.

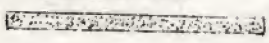
2- Loads up to 1 ton M.T.

3- Horse transport only.

4- Pack transport only.

Colored to indicate width and surface usually an explanation in map legend.

(d) RAILWAYS

 Double line

 Single line

 Tramways

 Embankment

 Cutting

(e) BRIDGES

Beside the bridge is a letter indicating the type:

W--Wood

M--Masonary

I--Iron

(f) TREES

Deciduous as bushy top tree

Coniferous trees.

If the signs are arranged symmetrically it indicates a park or orchard.

(g) BUILDINGS

 Building - roughly to shape

 Windmill.

 Church

 Church with tower

 Church with spire

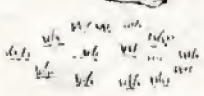
 Post Office

 Telephone (or T.C.D. Telephone Call Box)

 Telegraph Office

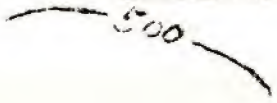
(h) GROUND

 Pasture

 Marsh

 Gravel pit

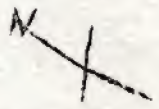
(i) MISCELLANEOUS MAP SIGNS



Contour Line--usually in brown

△ Trigonometrical point

.5 Mile distance



North points

(k) RIVERS AND STREAMS

Stream - usually blue

River - usually blue

Ferry - A"V" indicates a vehicular ferry.

Lock

Plate vi in M.M.R. shows some signs used to show certain Military formation.

DAY - 3

SCALES

(a) DEFINITION

The word scale means the proportion which the length between any two points on a map bears to the horizontal distance between the same two points on the ground --Is also used to denote a line drawn on the map and suitably divided so that measurements of distance can be made with its assistance on the map in question

(b) METHODS OF EXPRESSING

1. By words.
2. By a representative fraction.
3. By a scale line.

(c) METHODS OF CONSTRUCTING A SCALE

To construct a scale in which 5" equals 1 mile:

4" = 1 mile
or
4" = 1760 yards.
A scale line should be between 4" & 6" long
A line 4" long would represent $\frac{4}{4}$ x 1760 = 1760 yards.

A line 6" long would represent $\frac{6}{4}$ x 1760 = 2640 yards.

The nearest round figure between 1760 and 2640 is 2500.

(c) METHOD OF CONSTRUCTING A SCALE - contd.

To find out how long a line should be drawn to represent 2500 yards do the following calculation:

$$1760 : 2500 :: 4 : x$$

$$\frac{1760}{2500} = \frac{4}{x}$$

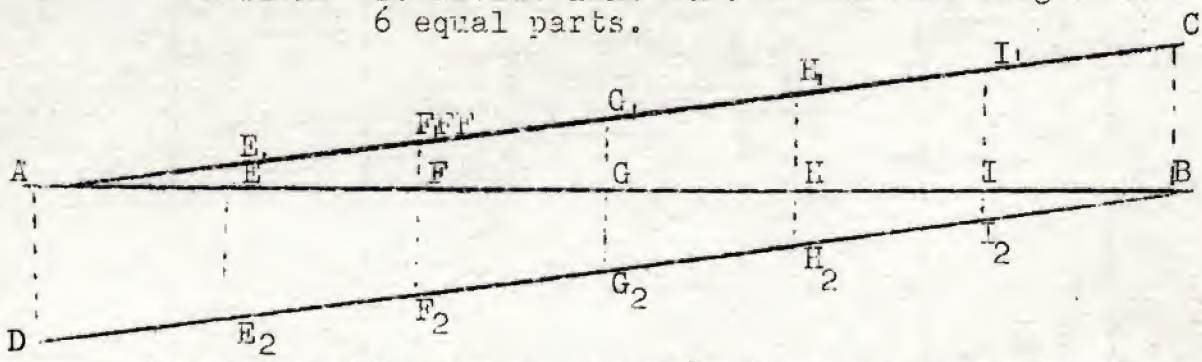
$$1760\,x = 10000$$

$$x = 5.68 \text{ in.}$$

Draw a line 5.68 in. long and divide into 5 parts--each will represent 500 yards., or 25 parts to represent 100 yards or as illustrated below:

A service protractor may be used to divide a line into equal parts thus:

Problem: To divide line A.B. of unknown length into 6 equal parts.



Construct (lightly in pencil) line A.B. at angle of 15 to A.B. and of such a length as to be conveniently divided into 6 parts e.g. 6" and mark these divisions "E" etc.

Construct B.D. in a similar manner.

Join E' to E", F' to F" etc., with a dotted line making a firm mark where each of these intersect A.B.

Line A.B. will now be found to have been divided into 6 equal parts.

(d) SPECIAL TYPES OF SCALES

1. Time Scales--wherein time replaces distance.

2. Diagonal Scales--as on service protractor.

REPRESENTATION OF THE SHAPE OF THE GROUND (Relief)

(a) METHODS IN COMMON USE

(1) Spot heights

(2) Colors

(3) Shading and Hatchures

(4) Contour line--This is the most accurate for large areas and the one commonly used on Military maps.

(b) CONTOURS

A contour line is a line on the map representing an imaginary line on the ground, all parts of which are the same distance above mean sea level. Contours might also be defined as a representation of the planes of the lines at which a water surface (for instance the ocean) would intersect the surface if the earth where it raised successively by equal amounts. These contours are shown on the map by brown lines and any point on the line is the same height above sea level as any other place. The height of the contour is marked somewhere along its length. The difference between any two contours (successive) is known as the Contour or Vertical Interval, and this distance is noted in the margin of the map.

(c) READING CONTOURS

By inspection of contour lines on the map a very good idea of the shape of the ground may be obtained. Where there are few contours the ground is relatively flat. Where contours are numerous the ground is sloping.

From the closeness of the successive contours an idea of the shape of the ground may be obtained. Where successive contours are close together the ground rises or falls rapidly. Where successive contours are further apart the slope of the land is more gentle. Whether the ground rises or falls from the reference point depends on the numbering of the contours which shows increasing or decreasing heights.

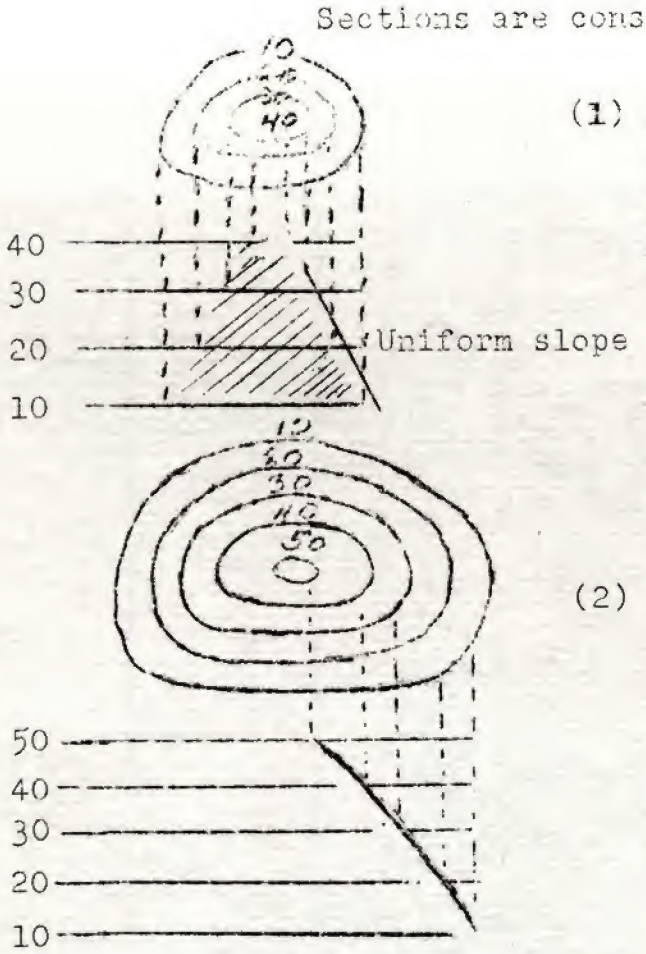
From the contours one can tell whether a slope is uniform convex or concave:

(a) Evenly spaced contours indicate a uniform slope.
(b) Contours decreasing in space from high to low indicate a convex slope.
(c) Contours increasing in space from high to low indicate a concave slope.

(d) SECTIONS

The above statements can be graphically illustrated by means of drawing sections. A section may be defined as "The outline of the intersection of the ground by a vertical plane".

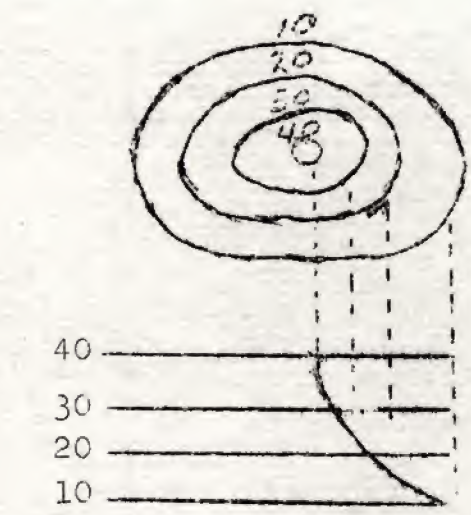
Sections are constructed in this manner:



Convex Slope

(1) Draw parallel lines at equal intervals below the contours in question and number them down from above--down with the same numbers as the contours.

(2) Drop perpendiculars from the contours to the horizontal line numbered the same as the contours.



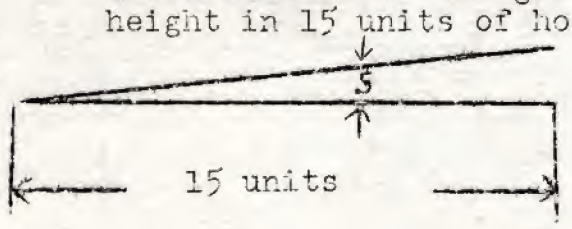
Concave Slope

(3) Join the points obtained and the resulting figures is a cross section of the ground.

DAY- 5

(A) SLOPES AND GRADIENTS

The slope of the gound is the rise or fall of the ground between any two points and may be expressed as an angle e.g. 5 degrees or as a gradient e.g. 1/15 which means that the ground rise or fall 1 unit in height in 15 units of horizontal distance.



The slope A.B. is 5 or 1/15 the distance A.C. is known as the horizontal equivalent (H) B.C. is the vertical interval (V.I.)

The gradient is the tangent of the angle of slope V.I./H.E. and is found on the fact that the tangent for 1^0 is approximately 1/60 (1/57.3) and is sufficiently accurate up to 10^0

Thus: V.I. : H.E. = to : 60

or

$$\frac{V.I.}{H.E.} = \frac{to}{60}$$

or

$$V.I. = \frac{to \times H.E.}{60}$$

or

$$H.E. = \frac{V.I. \times 60}{to}$$

or

$$to = \frac{V.I. \times 60}{H.E.}$$

NOTE: Always convert H.E. and V.I. to same unit.

Example of question involving know ledge of gradients.

M.T. cannot ascend a gradient steeper than 1/5

A hill is on road marked by contours with V.I. of 50 feet and at steepest part the contours are 100 yds. apart (300 ft.) Can the M.T. ascend this hill?

Substituting known factors in our formula

$\frac{V.I.}{H.E.}$ will obtain $\frac{50}{300}$ or $\frac{1}{5}$

Therefore M.T. can get up the hill.

We could work backwards by asking ourselves how far apart would the contours be with a gradient of 1/55 and a V.I. of 50 feet thus:

$$\frac{50}{H.E.} = \frac{1}{5}$$

H.E. = 250 feet

but our H.E. is 300 ft.

The slope is not too great for our M.T.

(B) VISIBILITY

It is often very important to know whether two points are mutually visible to each other. There are several methods of telling this from the map.

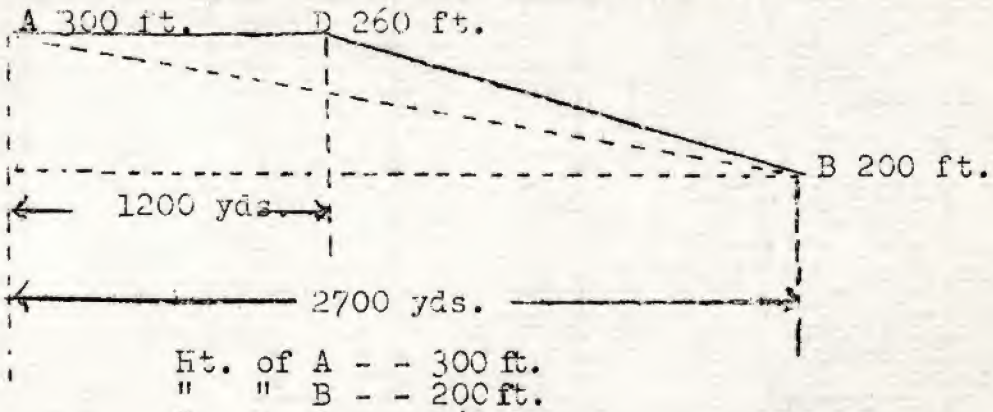
(B) VISIBILITY (Contd.)

(1) By Inspection.
This often sufficient.

(2) By Cross Sections.
Probably the most easily understood and if properly drawn, most accurate.

(3) By Gradients.
Inspect the map to note any point that are likely to obstruct the line of sight, then work out the gradients thus:

To find if points A.B. are mutually visible, point D being the only point likely to interfere with the line of sight.



Ht. of A - - 300 ft.
" " B - - 200 ft.
" " D - - 260 ft.

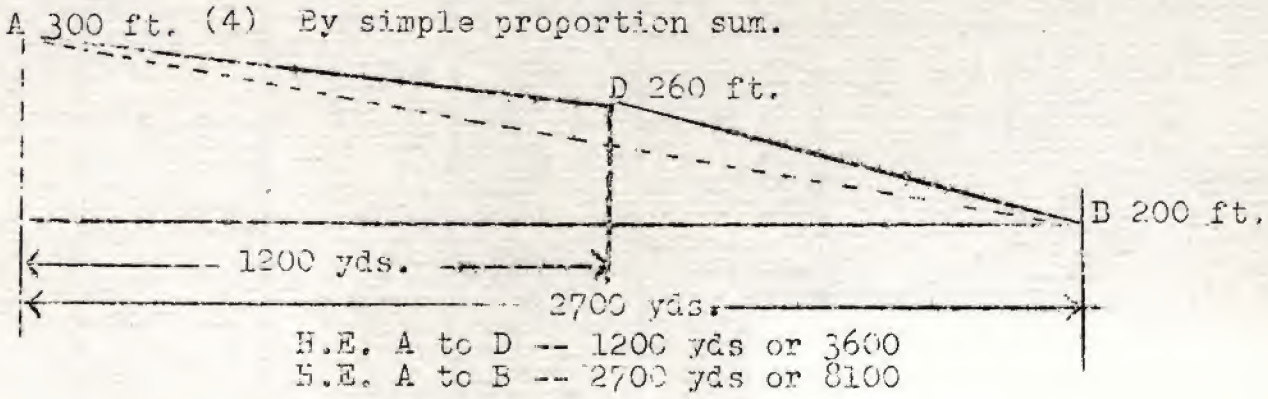
H.E. A to B - 2700 yes. or 8100 ft.
H.E. A to D - 1200 yds. or 3600 ft.

Gradient A B $\frac{100}{8100} = \frac{1}{81}$

Gradient A D $\frac{40}{3600} = \frac{1}{90}$

Gradient A B is steeper than Gradient A D and so points A B are not mutually visible.

(4) By simple proportion sum.



H.E. A to D -- 1200 yds or 3600
H.E. A to B -- 2700 yds or 8100

V.I. Between A-D 40 ft.
V.I. Between A-B 100 ft.

Line of sight A to B falls 100 ft. in 8100 ft.
In 3600 ft. it falls according to proportion:

$3600 : 8100 = x : 100$

or

$\frac{3600}{8100} = \frac{x}{100}$

or

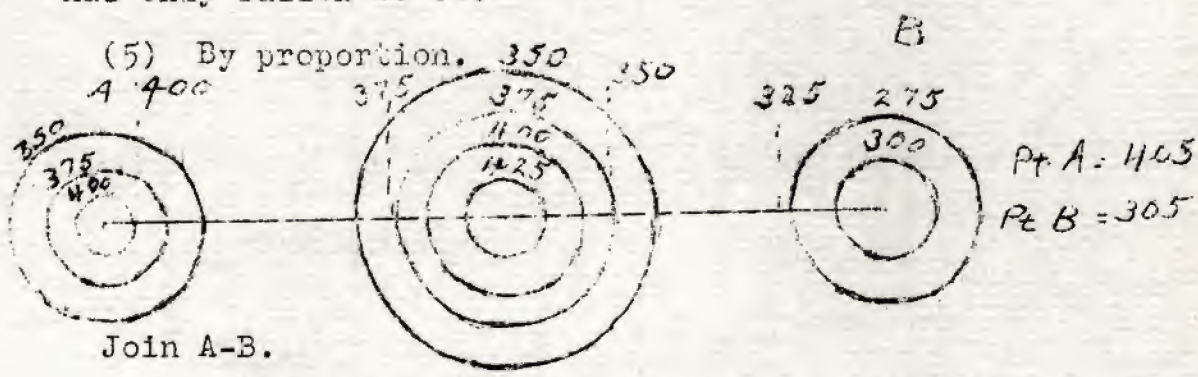
$360{,}000 = 8100\ x$

$44.4 = x$

(B) (4) VISIBILITY - contd.

Points A-B are not visible because the line of sight has fallen 44.4 ft. and the has only fallen 40 ft.

(5) By proportion.



Join A-B.

Terminal heights 405 and 305 and the difference is 100 (or 4 times the V.I.)

Length of A- B = 10 cms. by actual measurement.

Divide A-B according to the following proportion:

$\frac{405-400}{100} \times 10 = 1 \times 10 = .50$

$\frac{400-375}{100} \times 10 = \frac{1}{4} \times 10 = 2.50$

$\frac{375-350}{100} \times 10 = \frac{1}{4} \times 10 = 2.50$

$\frac{350-325}{100} \times 10 = \frac{1}{4} \times 10 = 2.50$

$\frac{325-305}{100} \times 10 = \frac{1}{4} \times 10 = 2.50$

Total 10.00

At	the	point	0.50	cms.	from A	Mark 400
"	"	"	3.00	"	"	" 375
"	"	"	5.50	"	"	" 350
"	"	"	8.00	"	B	" 325

Now inspect the contours along the line A.B. and if at any place this line of sight is lower than the ground the points are not visible.

The Practical application of the above method.

DAY - 6

(a) The service protractor.

scales

angles

diagonal scale

(b) North Points

True North - The direction of the North Pole from the observer.

Grid North - The direction in which the grid lines point towards the top of the map.

Magnetic North - The direction in which the compass needle points.

(c) Bearings

A bearing is the angle measured clockwise from a certain fixed line to the line in question. The fixed line may be the true north, grid north, or magnetic north. The angle is measured in degrees and minutes.

(d) Back B earings.

For certain reason it is not only necessary to know the bearing of a certain point from another but to know what the bearing in the reverse direction is. If the first bearing is under 180° the reverse bearing is obtained by subtracting 180°.

In using the service protractor it is handy to know that the inner and outer figures on the edge are the reverse bearings of each other.

(e) Conversion of Bearings.

The usual conversion of bearings is from magnetic to grid and vice versa, because in the field bearings are measured from the map or with the compass and to make such bearings applicable, they have to be changed to either grid or magnetic before comparison can be made.

On the side of each map is a diagram indicating the variation between the grid and magnetic north when this is known any bearing may be converted from one to the other.

The following is the rule for the conversion of bearings:-

1. If the magnetic variation is East.

To convert G. to M -- Subtract.

To convert M. to G. -- add.

(e) Conversion of Bearings (contd.)

2. If the magnetic variation is West

To convert G. to M -- add

To convert M. to G -- Subtract

DAY - 7

(a) System of reference.

To pin point a place on the map we need some system of cross references. There are two Systems on Britich Army Maps, similar in principle but different in detail. These Systems are the British System and the Modified British System. The two Cardinal rules of both Systems are:

A. Easting comes first, Northing second.

B. There must be an even number in the reference.

(b) The British System.

This system largely obsolete now. In it the map is divided in 10,000 meter squares by heavy lines and such a square is given a letter to identify it. This square is subdivided by lighter lines into 1,000 meter squares and each line given a number. In large scale maps, the 1000 meter squares can be divided again into 100 meter squares. Thus the reference of a point in this system consists of a letter identifying the 10,000 meter squares, a figure indicating how many 1000 meters east, another indicating 100 meters east and two figures indicating 1000s and 100s of meters north. Such a reference is Q2462.

The whole system is repeated every 50 kilometers and so it is possible on one sheet to have two identical references referring to two different places.

(c) The Modified British System.

In this system the area is divided into squares of 500 kilometers per side, each of which is designated by a letter. Each of these squares is again divided into 100 kilometers squares each line east and north being given a letter. The 100 kilometer squares are subdivided into 10 kilometer square by lines givennumbers and these again 1 kilometer square by number. Thus a reference to within 1 kilometer square would be H 6335.

In larger scale maps (1" = 1 mile or larger) however it is possible to dispense with letters altogether and thus a reference to within the nearest 1000 meters is simply 6335.

(d) References on Maps over 1" = 1 mile M.B.G. System

The maps that we will use are all gridded according to the M.B.G. System. The map is divided by the heavy lines into 10,000 meter squares and by the lighter lines into 1000 meter squares. When given a map reference first divide it into two equal parts thus: 59/45 and go east of the line named by the first half of the figures, and then north to the line named by the second half of the figures. The point at which these lines cross is the point for which we are looking.

(d) References on Maps over 1"= 1 mile M.B.G. System (Cont)

But by such a simple reference we can only pin point a place that falls directly on the intersection of the 1000 meter squares. The 1000 meter squares can be divided still further by making a Romer Scale. Take the corner of a piece of paper and number it nought. Set off along both edges the distance between grid lines. Subdivide this distance into tenths and number them from 0-10 outwards from the corner or zero point.

Now a reference of 6 figures such as 595/455 could be located. Divide the six figures in half as before. Go to the intersection of the lines named by the first two figures of each group as previously and now with the Romer Scale go east the number of hundred meters indicated by the 3rd figure of the 1st half of the 1st half of the reference and then north the number indicated by the 3rd figure if the 2nd half of the reference. This pin is pointing a place within 100 meters.

By eye the 100 meters divisions could be still further divided into 10 meter ones. This is usually done so that a final map reference consists of 8 figures thus: 59504553. Never leave out a zero.

DAY - 8

(a) The Map Margin.

The margin of the map contain much valuable information and should be looked at carefully before an attempt is made to read the map itself.

At the top is the name of the map and the sheet number. In the upper left hand corner the scale is given as a R.F.

Along the bottom there are:-

(1) Explanatory notes as to any special conventional signs used in this map.

(2) The scale.

(3) The V.I.

(4) The type of grid system used.

(5) Special reference points the location of which is very accurately known (trig. Points)

On the right margin the magnetic variation is seen.

(b) Setting a map.

A map is set or orientated when it is laid out in direct correspondence with the ground so that the true north on the map corresponds to the North Point. A map may be set by compass or by well recognized objects.

(b) Setting a Map (Cont.)

(1) By Compass:

Set the map over the magnetic north line on the map and twist the map until the compass needle points along the magnetic north line. The map is now set.

(2) B

The observers' location must be known. Pick out an easily recognizable object on the sky line and turn the map so that a line between the observers' position and this object on the map is parallel to the line of sight on the ground. The map is then set.

(c) Finding Position on Map.

Take a bearing on 3 prominent objects. Work out the back bearings, theoretically all these lines shown meet at a point which represents the observer's location on the map. Practically however, due to slight errors these lines will probably form a small triangle, the centre of which is considered the observer's position.

DAY 9

The Compass.

Parts

Readings

Use at night

Errors

DAY - 10

Copying and Enlarging maps.

Panoramas, Field Sketch.

R.C.A.M.C. TRAINING CENTRE

MILITARY LAW

OFFICER'S COURSE.

PRECIS I

1. This precis is an introduction to Military Law, This is a subject that cannot be learned by note. We have certain principles to guide us and long practice makes us familiar with certain sections of the reference book, but on the whole, a problem in Military Law requires an ability for going to the correct reference book and locating the section that is applicable to the case in hand.

   This precis therefore is only intended to point out the most important subjects and tell you how to use your books of reference.

2. The first book is of course your Manual of Military Law (M.M.L.)

   (a) The most important is the Army Act itself p.p. 418-610. This gives a lot of offences a soldier may commit. In many cases it is hard to determine the exact meanings so explanator notes appear at the bottom of these pages and in the Chapter III in the first part of the manual.

   (b) Following the A.A. comes the Rules of Procedure which determine how a man is to be tried, etc. At the front of the section on the Army Act and before the Rules of Procedure are indexes to that particular part of the book. It is usually more convenient when you have classified your problem into one of an offence or a question of a rule of procedure to look it up in this condensed index.

   Incidentally, any reference in this manual to sections in K.R. & O. (Can.) applies to the Imperial and not to the Canadian edition and is not applicable.

   (c) On page 702 under Rules of Procedure there is a section on how to frame charges.

3. The second reference book is K.R. & O. (Can.) and in it you will find the following subjects.
   1. The Militia Act. (Appendix 1).
   2. Discipline, Para's 405-444. (Redress of Grievances 417-418).
   3. Arrest and Military Custody, Para's 445-446.
   4. Investigation of Charges, Para's 454-467.
   5. Summary and Minor Punishments. Para's 468-474.
      (Powers of Commanding Officers 475-479).
      (" " Company Commander " "
   6. Drunkenness, Para's 486-494.
   7. Desertion and offences against enlistment. Para's 495-517.
   8. Courts of Enquiry and Boards of Officers, Para's 625-644.

These are the usual parts of the book to which you might have to refer in answering a paper on Military Law.

4. The last book of reference is Financial Regulations and Instructions (C.A.S.F.) where anything affecting a man's pay is dealt with.

5. Answering questions in Military Law is peculiar in that all answers must be backed up by a reference to one of the manuals. The reference or references are usually placed at the end of the question thus:

(A.A.220) or (K.R. Can. Para. 345).

R.C.A.M.C. TRAINING CENTRE.

MILITARY LAW.

OFFICERS COURSE.

PRECIS 2 - LECTURE 2

Having beco e roughly acquainted with these manuals let us take a number of sample questions and work them out together. Before attempting to answer questions see where it fits in the following scheme and it will cut down your index work to a minimum.

(a) Does it relate to an offense or punishment?
Look it up in the index of the A.A. p. 418 M.M.L.

(b) Has it to do with some point of procedure?
Look it up in the index of the R.P. p. 611 M.M.L.

(c) Has it to do with one of the special subjects which is dealt with in K.R. (discipline, arrest, military custody, investigation of charges, summary and minor punish ents, drunkenness, desertion, courts or inquiry?)
Look it up under these headings in K.R.

(d) Is it a problem peculiar to the N.P.A.M.
Look it up in the Militia Act (App.1, K.R.)

(e) Has it to do with Pay?
Look it up in Financial Regulations and Instructions. (C.A.S.F.

Q. What summary punishments and awards may be inflicted on a soldier by a Commanding Officer?

A. Evidently this answer could be found in two places (1) K.R. and (2) the section on offences and punishments in M.M.L. Always quote M.M.L. as your first reference. Looking down the index in front of the Army Act. (i.e. the section in M.M.L. dealing with offenses and punishments) at the bottom of page 419 we come to the heading entitled "Summary Disposal of Charges" and the first item under this heading is "Powers of a Commanding Officer" Sec. 46, Look up this section and you have your answer.
The other reference is found in the section on summary and minor punishments in K.R. The second paragraph in this section (para. 472) details the Powers of a Commanding Officer in the case of other ranks.

Q. Describe the manner in which an officer or soldier should proceed to obtain redress for any grievance under which he considers himself to be suffering?

A. This is obviously a question of discipline. Look up the index of the Army Act and towards the en of page 419 there is a heading "Redress of Wrongs" and under this section you will find the mode of complaint by an officer Sec. 42, and mode of complaint by a soldier Sec. 43. You will find your answer in these sections of the Army Act. The answer may also be obtained in the section on Discipline in K.R. Looking through this section we see para. 419 dealing fully with the subject and so can be quoted after your answer as a second reference.

Q. What is meant by a Court of Inquiry and when are such courts required?
Are the members of the Court sworn?

A. This question would seem to be entirely one of procedure, therefore we should find something covering this in the Rules of Procedure and in the section on Courts of Inquiry in K.R. Looking in the index preceding the Rules we finally come to the heading "Courts of Inquiry" about the middle of page 614. Our answers will be found therefore somewhere in Rules 124, 125 (and in the amended copy of M.M.L. which you should have) 125a Rule 124a covers I; 125a (e) covers II, and 125a (c) covers III.

In the section in K.R. covering Courts of Inquiry we also find the answers and can quote the following paragraphs as our second references. Para. 625 covers I and you are referred to K.R. 125 to cover the other points in your answer.

Q. Discuss the terms: Military Law, Martial Law, and Civil Law.

A. These are straightforward definitions. In the back of M.M.L. there is in the index under definitions a number of references to questions of this nature. They refer you usually to the first part of the manual which is largely explanatory. You will find that you are referred to page 1 and seq. for the answers to these questions.

Q. A soldier comes into his barracks drunk at 2130 hours. How is he dealt with, and what punishment may be awarded?

A. Another case of an offense that will come under some section of the Army Act, and you will remember that there is a special section in K.R. dealing with this section.
Look up the index to the Army Act, on page 418 there is a special section on the subject of Drunkenness, sec. 12. Your answer is found in this section and the notes thereto, but is not definitely applicable to the Canadian army because the fines are given in English money. Looking up our other reference in K.R. we find that in the special section (paras. 486-494) on drunkenness we may find all the material necessary to answer the question. In addition, it refers us again to A.A. 46, which gives a Commanding Officer powers to inflict fines in such cases.

A commanding officer will act without jurisdiction if he disregards the provisions and limitations of the military code of law as laid down in the various enactments and regulations, e.g., if he punishes a W.O. or if, being a junior officer, he assumes the punitive powers of a C.O. By acting without jurisdiction he may render himself liable to a civil action for damages.

Officers are not expected to memorize the law. They should have a general knowledge of the salient features and be so familiar with the use of the enactments and regulations concerned that they can rapidly refer to same in any question that may arise, and thus be able to quote their authority for their actions or to support their answers in an examination. Military Law is a concrete subject. Questions seldom permit of an answer based only on opinion but are dependent on the provisions of a definite code.

Questions set in an examination usually request an answer determining the legality or regularity of an action in accordance with the military code of law. Candidates must base their answers on the "law" and not on what they consider, as a matter of personal opinion, what should have been done.

R.C.A.M.C. TRAINING CENTRE

MILITARY LAW.

OFFICER'S COURSE

Precis 3 - Lecture 3.

Subject - M.M.L. Chap. I - V.

These chapters of M.M.L. are very important, and should be read by any candidate in the subject. They are not the law, but are largely explanatory, and in most cases refer to the A.A. where the law regarding the particular subject may be found. In them are found such explanations as the legal position of officers and soldiers, riot and insurrection, martial law, offences and punishments, desertion, fraudulent enlistments, drunkenness, powers of commanding officers, and so on.

Try to find the answers to the following questions in these chapters. Note the references as to where the law may be found in the A.A.

1. What is the distinction between mutiny and insubordination?

2. How are military offences classified?

3. Give a definition of the laws affecting military officers as such.

4. Under what section of the A.A. would a guard commander who allows a prisoner to escape be charged?

5. What is Martial Law? How does it differ from Military Law?

6. What does disobedience to a lawful command in its most serious form amount to?

7. What are the circumstances under which a man should be placed in close arrest?

8. If a man is A.W.L. for a month, is he necessarily a deserter? When does A.W.L. terminate?

9. What constitutes an act of sedition?

10. What is a lawful command?

The Following are Minor Punishments:

Confinement to Barracks: As described in K.R. (Can) 472. No forfeiture of pay involved.

Extra Guards or Picquets: Only awarded for offences when on or parading for those duties.

Severe Reprimand or Reprimand: Only applicable to N.C.O's. Sev. Rep. entails Regt. entry in conduct sheet. Rep. does not - K.R. 15 16.

Admonition: A rebuke - involving no forfeiture and no entry in conduct sheet unless a forfeiture of pay is entailed, or in a charge of drunkenness. K.R. 1523.

Deprivation of Lance, Acting Rank or Appointment: In case of N.C.O. or man holding same as in K.R. 472.

In cases of A.W.L. forfeiture of pay is automatically involved, not as a punishment but under F.R.I. Sec. 149(a)

Officers are forbidded to award punishment of a fancy nature. K.R. 474.

R.C.A.M.C TRAINING CENTRE.

MILITARY LAW.

OFFICERS' COURSE.

Precis 4 - Lecture 4.

The Army Act

Sections 4-41. Describe Military Offences and the maximum punishments which may be awarded.

Special attention is drawn to the following sections, A.A. 42-43. Method of obtaining redress of a wrong, A.A. 46 powers of Commanding Officer A.S.47. dealing summarily with charges against officers and W.O.'s.

Members of C.A.S.F. are subject to Military Law at all times M.M. 69. (2). (3).

OFFENCES.

(a) In order to commit an offence under Military Law, making him liable to arrest, a man must contravene provisions of the A.A. (Note particularly the code as laid down Secs. 4-41, or code as contained in the Militia Act of Canada (App. 1 K.R.)). Secs. of the A.A. are grouped according to the character of the offence and the various groups are in order of relative gravity.
(b) A.A. 40; used for breaches of discipline not specifically covered in other sections of A.A. and for attempts to commit most military offences except such as are specially legislated for.
(c) A.A. 41; covers the commission of a civil offence by a soldier where it is desired to try same by court-martial.
(d) A. C.O. may only deal sumanarily with those offences listed in K.R. (Can) 472.

PUNISHMENTS:

Detention; A man cannot be committed to a civil jail. Must carry out sentence in military custody or in detention barrack A.A. 63. Forfeits pay automatically for every day in detention. F.R. & I. 149 (b).

Fines: For drunkenness only-according to scale laid down in K.R. 492. These fines go to library funds.

Stoppages; From pay to make good value or cost of loss or damage, or expenses entailed through commission of offence committed by him. If amount is over $20.00 stoppages must be approved by D.O.C.

Field Punishment: Can only be awarded on Active Service and must be carried out in accordance with rules made under A.A. 44 (M.M.L. p. 787).

Forfeiture of Ordinary Pay: As a punishment under A.A. 46 (2) (d). Maximum 28 days. Awarded on active service only.

R.C.A.M.C. TRAINING CENTRE

MILITARY LAW

OFFICER'S COURSE.

Precis 5 - Lecture 5.

Arrest:

(a) Arrest is classified as Close Arrest when an offender is confined under guard and Open Arrest when he is not allowed to leave barracks or camp until the case is disposed of. Arrest is applicable to all ranks M.M.L. 1-12. K.R. (Can.) 446.

(b) Who may place an officer under arrest M.M. . IV 2,4-6. A.A. 45(3) K.R. 446.
Who may place an N.C.O. under arrest A.A. 45(3).
Who may place a private soldier under arrest A.A. 45(3) under circumstances as set forth in K.R. 446.

(c) The charge report to be handed in to N.C.O. in charge of guard. A.A. 45(4) K.R. 448.

(d) He shall report details of persons commited to his charge M.M.L. IV 18. K.R. (Can.) 448.

(e) Release of person in arrest K.R. (Can.) 462-463-464.

Investigation of Charges. M.M.L. IV 19-30. R.P. 2-5. K.R. 454-466.

(a) All charges to be investigated daily except Sundays, Good Fridays, and Christmas. R.P. 2 K.R. 454.

(b) Charges against N.C.O.'s and private soldiers investigated first by Sqn., Bty, or Coy. Cmdr., as in K.R. 454. His powers of punishment will be dealt with later.

(c) Use of Guard Reports & Minor Offence Reports, K.R. 456, 457.

(d) Method of Investigation as in R.P. 3 M.M.L. 22,23,25.

(e) If desired, case may be remanded to have evidence taken down in writing.

(f) C.O.'s award is final when accused marched from his presence, after which he cannot increase the award for that offence, not alter the record on the conduct sheets. He may, however, diminish it. R.P. 6B and footnotes.
Note 18 to A.A. 46.

(g) If C.O.s punishment is excessive or illegal, it is subject to revision as in R.P. 10 and the record of same subject to alteration.

(h) If C.O. proposes to award any summary punishment involving a forfeiture of pay (e.g. fine, stoppages, detention, etc.,) or if a forfeiture of pay will be involved in a case of absence, accused has the right to elect trial by C.M., and C.O. must ask him if he desires to be tried by C.M. or take the C.O.'s summary award. R.P. 7, A.A. 46. K.R. 472.

C.O.'s Powers of Punishment.

(a) The maximum punishments which a Commanding Officer may award are laid down in A.A. 46. supplemented by K.R. 472.

1. C.O. under rank of Field Officer is restricted in award of detention to seven days.

2. F.P. and forfeiture of ordinary pay (awarded as a punishment under A.A. 46 (2) (d) can only be awarded on active service.

3. Extra guards and picquets can only be awarded for offences committed when on or parading for these duties.

4. The only punishments that a C.O. can award an N.C.O. (or acting N.C.O.) are: Severe reprimand, reprimand, admonition or deprivation of lance, acting rank or appointment. K.R. 471.

5. The scale of fines for drunkenness is laid down in K.R. 492., and note restrictions as to award or detention or other punishments in addition to fine, K.R. 489.

6. Award of detention (by C.O. is expressed in "hours" up to 168 hours 7 days) over that in "days". This affects the commencement and termination of the sentence, R.P. 6 a.

(b) The O.C. detachment has the same powers as a C.O. if of field rank, otherwise he is restricted to the same as a C.O. below field rank, or he may be restricted as in K.R. 475. subject to his having the right to act, to the full extent of his powers if the necessity arises K.R. 475.

Officers and Warrant Officers. M.M.L. iv 39 A.A. 47, 182 R.P. 9, K.R. Can 331, 332, 458, 468.

(a) Officers must understand what personnel of a unit are W.O.'s vide K.R. 309 and table in 308.

(b) A C.O. cannot punish an officer, nor a warrant officer Class I or II. He cannot take away their rank. K.R. 331, 332.

R.C.A.M.C. TRAINING CENTRE

MILITARY LAW

Precis 6 - Lecture 6

DISPOSAL OF CASE BY SQN., COY. or BTY. COMMANDER.

(a) Can only dispose of those offences listed in K.R. 477.

(b) Can only deal with private soldiers and N.C.O.'s up to the rank of Corporal, K.R. 470 - 472.

(c) Powers limited as in K.R. 477 and in the case of an N.C.O. (up to Corporal) to a reprimand as in K.R. 477.

(d) C.O. may restrict powers in case of an officer of less than three years service to three days C.B. K.R. 477.

(e) Awards of Coy. Cmdr. are subject to remission by C.O.

(f) How his awards are recorded, K.R. 457. and action if case remanded for C.O., K.R. 456.

DISPOSAL OF CASE BY COMMANDING OFFICER.

M.M.L. IV 24-29. R.P. 4-5.

(a) Can only summarily dispose of charges laid under those sections of the Army Act listed in K.R. 459, otherwise must remand for D.C.M. or refer to superior authority.

(b) Can not dispose summarily of a charge against an officer or Warrant Officer (including W.O. Class II) K.R. 459 A.A. 182 (1) for classification of ranks, see K.R. 308. For disposal of charges against officers and warrant officers, see below.

(c) Where he has the power to dispose summarily of a charge against an N.C.O., or private soldier, he may:-

(1) If he considers accused is guilty, award summary punishment. (See below) subject to accused's right to elect trial by C.M.

(2) Remand case for trial by C.M.

(3) Dismiss the case if he considers the accused is not guilty of that that the case should not be proceeded with.

(4) If further investigation is desireable he may remand the case to have the evidence reduced to writing R.P. 4-C D.E.F. and may for this purpose summons civil witnesses as required. A.A. 125 (3) R.P.4,G&H.

(5) Is obliged to deal with charge of simple drunk[illegible] in the case of Private Soldier under conditions defined in K.R. 487 - 490.

(c) Troops called out in aid of the Civil Power are deemed to be on Active Service. M.A. Sec. 80.

(d) Every officer and man called out in aid of the Civil Power becomes, ipso facto, a special constable without having to be sworn in as such, but notwithstanding this, they act only as a military body and each officer and man is individually responsible to obey the orders of his military superior officer. In this connection the law differs from that of England, where every officer and man is individually liable for the consequences of his own act, notwithstanding the fact that he may have acted upon the command of his military superior. The provisions of Militia Act 82 would absolve the subordinate from the consequence of any act done upon the orders of his military superior.

(e) M.A. 120 lays down the penalty which may be incurred by any officer or man of the Militia who refuses or neglects to go out with his corps when lawfully called upon to act in aid of the Civil Power, or who refuses, or who neglects to obey any lawful order of his superior officer.

3. REQUISITION BY THE CIVIL AUTHORITIES FOR THE ASSISTANCE OF TROOPS.

(a) Can only be made by the Attorney-General or A/Attorney-General of the Province in which the disturbance occurs. M.A. 76.

(b) Requisition must be in the form similar to that shown in Militia Act 80.

(c) It must be in writing requisitioning the Active Militia or such portion thereof as the D.O.C. considers necessary and must show those points referred to in M.A. 81 (1).

(d) It must contain an undertaking that the province shall pay all expenses and costs incurred in the calling out of the troops M.A. 81

(e) The requisition must be addressed to the D.O.C. of the Military District in which the disturbance is situated. M.A. 76.

CALLING OUT OF THE TROOPS

Procedure contained in M.A. 77:78: K.R. 849-850. Note especially:

(a) Action can only be taken by the D.O.C., or if he is unable to act, or is not present, then by the officer appointed to administer the district, or for the time being, performing his duties.

(b) The P.F. shall be used insofar as they are available. Militia corps shall not be used unless the P.F. is insufficient or not available.

(c) If the D.O.C. considers that the services of the Active Militia of other districts than his own are necessary, he shall notify the Adjutant-General of the number required and the A.G. shall call out and cause to be despatched such of the Active Militia as he considers available.

Duties of the Officer in Command of Troops Called.

(a) On arrival at the locality of disturbance, he will consult with the magistrate and senior police officer present. He will then decide on the disposition of his Troops. K.R. 852.

(b) He will move his force to the place directed by the magistrate, moving in regular military order with usual precautions for protection and not permitting troops to be scattered, detached or posted in a situation where they will not be able to act in their own defence. K.R. 852.

(c) He will ensure that his command and each detached portion thereof is accompanied on all occasions, when on duty, by a magistrate to represent and give orders in the name of the civil power. K.R. 853.

(d) He will forward direct to N.D.H.Q. daily a state showing numbers of different ranks actually employed in aid of the civil power. K.R.865. On completion of duty, in aid of the civil power, he will render a report immediately in writing to the D.O.C. K.R. 866.

6. Action of Troops called out in aid of Civil Powers.

(a) They shall be armed and provided with ammunition as laid down in K.R. 844-851.

(b) A patrol or a piquet employed in the actual suppression of a disturbance will be under the command of an officer K.R. 844.

(c) Detachments of twenty files or under will be told off into four sections. If over twenty files then into more sections than four. K.R. 859.

(d) Commands to the Tps. will be given by an Officer. K.R.857.

(e) If the magistrate concludes that the police are unable to cope with the situation and requires action on the part of the troops, he will request Comdr. of Tps. to take action. K.R. 856. Request should, if possible, be in writing, if not, have reliable witness present and request must be made distinctly. K.R. 854, 856.

(f) If requested to take action it will be duty of officer to take such military steps as in his opinion the situation demands. He has absolute discretion as to action to be taken and as to arms, including fire-arms to be employed by troops. If Comdr. considers it unnecessary to take immediate action, he is not obliged to do so, nor will he continue any action longer than he considers necessary. K.R. 854.

(g) The magistrate and the officer are each responsible respectively for anything done or ordered by them which is not justified by the circumstances of the case. K.R. 854

(h) If fire-power is employed, the provisions of K.R. 860 shall be observed. If it is necessary to fire on a mob, it is quite permissable to endeavour to pick off the leaders.

(i) The extent of force to be used will depend upon circumstances. In the case of a armed rebellion full force should be used, but against unarmed or badly armed mobs, one should fire only as a last resort, and if lives are in imminent danger.

The Reading of the Proc. under the Riot Act.

(a) The reading of the Proclamation under the Riot Act.rests entirely with the Civil Power and in no way with the Troops. K.R. 855.

(b) The riot Act is fully explained in M.M.L. Chap. XIII, Paras 16-18. Revised Statutes of Canada alters time limit set for dispersion of the assembly to one half hour instead of one hour as referred to in secs quoted above.

R.C.A.M.C. TRAINING CENTRE

MILITARY LAW

OFFICER'S COURSE

Precis 7 - Lecture 7

1. LAW IN GENERAL

(a) Common law vide M.M.L. p. 2, footnote 2, which covers soldiers and other citizens alike, imposes two main obligations in reference to quelling of public disorders. These are : (1) Every citizen is bound to come to the aid of the civil power when the civil power requires his assistance to enforce law and order. (2) To enforce law and order, no one is allowed to use more force than is necessary.

(b) In Great Britain there is no legal difference between soldiers and other citizens in respect to their duty to respond to the call of the civil authorities.

(c) In Canada the principles of Common Law notes above are also applicable, but in addition there are, in so far as soldiers are concerned, certain statutory provisions added to the Common Law, These are contained in the Militia Act. While these are in addition to the Common Law, they do not supersede it unless they are in direct conflict to the Common Law.

(d) The Law classifies public disturbance as "unlawful assemblies," "riots" or "insurrections". Unlawful assemblies, explained in M.M.L. Chap. XIII, II. A riot is explained in M.M.L. XIII, 14. An insurrection differs from a riot in having an object of a general and public nature. Really a species of treason.

ILLUSTRATION

A crowd assembles in a tumultuous manner, armed with sticks and other weapons to protest against the closing of a public way, with the intention of removing the barrier. This is unlawful assembly. The mob arrives at the barrier and proceeds to remove it in a violent and riotous manner. This is riot.

A mob assembles and attacks a prison with the view of obtaining the release of some prisoners within. This is insurrection.

2. EMPLOYMENT OF TROOPS IN AID OF CIVIL POWER (CAN)

(a) Sec. 75 of the Militia Act renders the Active Militia, or any corps therefore, liable to be called out to assist the Civil Power when a riot, or disturbance of thepeace occurs. or, in the opinion of the Civil authorities, is anticipated as likely to occur, which is beyond the power of the Civil authorities to suppress or prevent, or to deal with.

(b) They called out, not to replace, but in aid of the Civil Power. K.R. 853. The fact that troops have been called out does not divest the Civil Power from its responsibility for the maintenance of law and order.

M.A. 108. Any officer or man is guilty of an indictable offence should he sign a false parade state, roll, pay list, or any false return.

M.A. 112. Every officer or man of the Militia or any other person who falsely personates another for any purposes required by this act is guilty of an indictable offence, and liable to a fine of $100.00.

M.A. 115. Every officer and man of the Militia who without lawful excuse neglects or refuses to attend any parade, etc. or to obey any lawful order at or concerning such parade, etc., shall incur a penalty of; if an officer, ten dollars, if a man, five dollars for each offence.

M.A. 116. Every person who interrupts or hinders any drill or trepasses on drill grounds may incur a penalty of five dollars for each offence, and may be taken into custody and detained until the drill is over.

M.A. 117. Every officer or man who disobeys a lawful order by his superior officer, or who is guilty of insolent or disorderly behaviour when on service shall incur a penalty, if an officer, of twenty five dollars, and if a man, ten dollars.

M.A. 118. Every man who fails to keep in proper order any arms or accoutrements delivered or entrusted to him, or who appears at drill parade or any other occasion, with his arms or accoutrements out of proper order, or unserviceable, or deficient in any respect shall incur a penalty of four dollars for each such offence.

M.A. 119. Every person who:
(a) Unlawfully disposes of removes any arms, accoutrements or articles belonging to the crown or corps.
(b) Refuses to deliver up such arms, etc. when required.
(c) Has in his possession any arms, etc. except for lawful use.
shall be liable to a fine of twenty five dollars for each offence. Every such offender may be arrested on complaint upon affidavit showing that he is about to leave Canada carrying such arms.

DESERTION AND ABSENCE WITHOUT LEAVE.

M.A. 120. Any officer or man who refuses or neglects to turn out in aid of the civil power after being duly ordered to by his superior officer shall, if an officer, be liable to a fine of one hundered dollars, and if a man, of twenty five dollars.

M.A. 121. Any Person who:
(a) Resists any calling out of any man enlisted, etc.
(b) Counsels or aids any person to resist.
(c) Counsels or aids any man not to appear at place of rendevouz.
(d) Dissuades any man who may be required from the performance of any duty.
(e) Does any act to the detriment of any enlisted men in consequence of his having so performed his duty.
(f) Interference with the drill or training of any corps.
(g) Obstructs any corps on the march, etc., shall incur a penalty up to $100.00.

M.A. 125. Penalties will be recovered with costs before a J.P. except when otherwise stated in M.A. Should the convicted person default payment, the J.P. may commit him to goal in his district up to 40 days should the penalty not exceed $20, or up to 60 days, should the penalty exceed that sum.

M.A. 126. Prosecution will be brought against an officer for penalty, only upon the complaint of the Officer Commanding the Militia. Prosecution will be brought against a man, only upon complaint of, or in the name of the O.C., or adjutant of that man's corps or regt. A. C.O. may authorize any officer of the Militia to make such a complaint in his name. No prosecution shall be commenced after the expiration of six months, except for offences of buying or selling or having in possession, public arms, etc.

M.A. 127. Every sum which persons, etc., are liable to pay for damages done to arms, etc., belonging to the crown, used for military purposes, may be recovered as a debt due to the crown.

M.A. 128. Every bond with the crown entered into by any person, etc., for payment of any sum or the performance of any duty authorized, shall be valid, and may be enforced.

M.A. 129. In the purpose of legal proceedings all moneys for the use of any corps, all arms, etc., belonging to any corps, shall be deemed His Majesties property.

M.A. 137. Every order made by a N.P.A.M. C.O. shall be held notified to all it concerns by insertion in a newspaper in the area, or by placing a copy of the order in a public building of that area.

M.A. 69. This section of the Militia Act specifically makes the A. Act operative in Canada when not at variance with the Militia Act itself.

AID OF THE CIVIL POWER.

M.A. 75-85. Also covered in K.R. (Can.)

R.C.A.M.C. TRAINING CENTRE

MILITARY LAW

OFFICER'S COURSE

Precis 8 - Lecture 8

The Militia Act. (Appendix 1, K.R. (Can.)

ARMS, CLOTHING AND EQUIPMENT

The uniforms, arms and equipment shall be of such pattern, etc., as are prescribed and shall be issued under regulations. Officers will provide themselves with uniforms and equipment with the exception of saddlery, which is issued to mounted officers.

Commanding officers are responsible for articles of public property issued to his unit; he may recover value of deficiencies, etc., from his subordinates.

Men leaving the country must return all public articles to the C.O. of their unit.

Uniform will be worn:
(1) On duty.
(2) Parade, etc.
(3) Target practice.
(4) Reviews, Inspections etc.
(5) By permission of the O.C.

CALLING OUT THE MILITIA

The militia may be ordered to train for a period of not more than 30 days, and may also be called out for any military purpose other than drill or training at such times, etc., as is prescribed.

ACTIVE SERVICE

The militia may be ordered out for active service anywhere in or beyond Canada for the defence thereof, and every member will attend at such time and place as ordered, with any arms accoutrements, ammunition and equipment which he has received.

Any man who volunteers for active service will be required to fulfill his engagement. As a rule a man will not be required to serve more than 1 year continuously. However, should the necessity arise, he may be ordered to serve for an additional six months.

OFFENCES AND PENALTIES.

M.A. 71. Every officer and man of the militia charged with any offence committed while serving the militia is liable to be tried by C.M. and if convicted to be punished. He is liable to be tried, convicted and punished up to six months after leaving the Militia.

M.A. 72 Every member of Militia who may be called out for active service, who absents himself for a longer period than seven days, may be tried as a deserter.

M.A.105. Every person who leaves Canada with any article of public clothing or property in his possession is guilty of theft and may be tried therefore at any time.

R.C.A.M.C. TRAINING CENTRE

MILITARY LAW

OFFICER'S COURSE

Precis 9 - Lecture 9

1. What are the powers of a commanding officer?

2. When is a soldier who absents himself without leave declared a deserter?

3. You are O.C. of a unit of the N.P.A.M. at annual camp. Pte B is absent from parade at 0900 hrs. What action would you take?

4. If a officer thinks himself wronged, how may he seek redress?

5. Can the attendance of civil witnesses at a court martial be compelled in Canada. (M.A. 96, 130.)

6. When has a man a right to demand trial by Court Martial?

   If a C.O. has punished a man for a certain offence and a superior officer finds that the facts really constituted a more serious offence, can the punishment be rescinded and the man brought to trial on the proper charge? (No. A.A. 46 (14).

7. Pte. Smith is placed in close arrest by the R.S.M. and is charged with drunkenness" and "striking a person in whose custody he was placed". Explain briefly the steps which will ordinarily be taken to dispose of this case. (A.A. 10, P&A. 66).

8. A soldier receives a summons issued by a civil court. What should his first step be? (K.R. 483.)

   Has his commanding officer any obligations concerning the trial of a soldier charged by the civil power? (K.R. 484.)

9. Capt. Brown of the C.H. of O. commands a detachment of that unit which is called out in aid of the civil power. He is ordered by an accompanying magistrate to fire upon a mob. What is his legal position? (K.R. 854.)

10. What is the procedure followed when investigating a charge against a soldier? (R.P. 3. Chap. IV, paras 19-29. A.A. 46 1.

ADMINISTRATION

PRECIS NO. 1

The Organization of the Military Forces of Canada

The Act of British North America gives to Canada complete control of her Military Forces.

The Militia Act for the Canadian Militia authorized the Active Militia, Reserve Militia, a General Staff, Headquarters Staff, and District Staffs. By an Order-in-Council of the 19th day of November, 1940, under and by virtue of the "War Measures Act" the Military Forces of Canada were designated as "The Canadian Army" instead of "The Canadian Militia" effective 7th of November, 1940, and published in General Order #273.

Composition of the Canadian Army:

The Canadian Army is composed of "Active Formations and Reserve Formations.

(a) Active Formation

(i) National Defence Headquarters Staff and District Staff.

(ii) Formations, Units or personnel placed on Active Service.

(b) Reserve Formation, Units or Personnel

Supplementary Formations to the Canadian Army

(i) Royal Military College.

(ii) Cadet Corps.

(iii) Rifle Associations.

Our Ministry is now called the Department of National Defence, brought into existence by proclamation on January 1st 1923, and consists of the Canadian Army (Active and Reserve) by the Order-in-Council of November 19, 1940. Naval Services and the Royal Canadian Air Force are now under separate Ministeries.

All matters requiring special consideration and decision are brought before the Defence Council which is composed of:

President.....	The Minister of National Defence.
Vice- President.....	The Deputy Minister of National Defence.
Members.....	Chief of the General Staff Chief of the Naval Staff Senior Air Officer.
Associate members....	The Adjutant General The Quarter-Master General Master-General of the Ordnance Judge Advocate General

The duties of the Council are to advise the Minister on all matters of Defence, including or relating to the Nava, Military and Air Forces of Canada.

National Defence Headquarters Staff

General Staff Branch: The Chief of the General Staff co-ordinate all branches at National Defence Headquarters. He is responsible for Military policy and strategy, training, war organization, etc.

Adjutant General's Branch: Has to do with personnel, peace establishments, mobilization, appointments, promotions and retirements of officers, recruiting, records, dress, discipline, Medical, Dental and Chaplain services, etc.

Quartermaster General's Branch: Is charged with organization and administration of transport by land and Sea, remounts, veterinary, quartering, Engineers' services, Railway services, etc.

Master General of the Ordnance Branch: Has charge of Ordnance Services, mechanical vehicles and spares not provided by R.C.A.S.C.; fixing reserves of ammunition and explosives; research, design and experiment with Ordnance stores, mechanical vehicles, R.E. and signal equipment: etc.

District Headquarters Staff

At this time Canada is divided into 11 Districts, namely:

M.D. No. 1 London.....		Western Ontario
M.D. No. 2 Toronto.....	Governing	Central Ontario.
M.D. No. 3 Kingston.....	"	Eastern Ontario
M.D. No. 4 Montreal.....	"	Western Quebec
M.D. No. 5 Quebec.....	"	Eastern Quebec.
M.D. No. 6 Halifax.....	"	Nova Scotia and Prince Edward Is.
M.D. No. 7 St. John, N.S.....	"	New Brunswick
M.D. No.10 Winnipeg.....	"	Manitoba and Western Ontario
M.D. No.11 Victoria.....	"	British Columbia and Yukon
M.D. No. 12 Regina.....	"	Saskatchewan
M.D. No. 13 Calgary.....	"	Alberta

Each District has its own Staff, the senior officer being the District Officer Commanding who is responsible for all military matters in his district.

Under the District Officer Commanding there is a representative of each branch of the National Defence Headquarters, as follows:

The General Staff Officer: He is the representative of the Chief of Staff, National Defence Headquarters, and deals with all matters pertaining to training, tactics, education, etc. Under this officer comes the District Cadet Officer, General Staff Officer (3rd grade), the District Signalling Officer.

Assistant Adjutant and Quartermaster General: He is the representative of the Adjutant General's department and the Quartermaster General's department, National Defence Headquarters.

He has an assistant, the Deputy Assistant Adjutant and Quartermaster General.

Under the A.A. and Q.M.G. are the following departments, each of which is represented by a Director:

1. Engineer.....District Engineer Officer
2. Supply and transport...District Supply and Transport Officer
3. Medical.....District Medical Officer
4. Ordnance.....District Ordnance Officer
5. Veterinary.....District Veterinary Officer
6. Pay.....District Pay Master

THE MEDICAL SERVICE OF THE ARMY IN CANADA

The Medical Services in Canada are commanded and administered by the Director General of Medical Services (D.G.M.S.), at National Defence Headquarters, Ottawa. The Medical Services come under the Adjutant General's Branch, and the D.G.M.S. is responsible to the Adjutant General.

The D.G.M.S. has a staff to assist him consisting of:

(a) Staff Officer Medical Services, who carries out such duties as are delegated to him by the D.G.M.S.

(b) Superintending Clerk.

In time of war, Assistant Medical Directors and Consultants are appointed as required. At the present time the D.G.M.S. has on his staff the following Assistant Medical Directors and Consultants.

A.M.D. 1 - In charge of administration of personnel of the Corps.
A.M.D. 2 - In charge of hospitalization, Medical Statistics, etc.
A.M.D. 3 - In charge of Technical Medical Equipment, Stores, and Finances.
A.M.D. 4.- In charge of Nursing Service
A.M.D. 5 - Director of Hygiene.

Consultants: Neuropsychiatrist,
Radiologist,
Surgeon,
Physician.

In each Military District there is a District Medical Officer (D.M.O.) who is responsible to the District Officer Commanding for the administration of all medical personnel in his District. The D.M.O. receives instructions from the D.G.M.S. regarding the policy to be followed in connection with administration of Medical personnel.

THE STAFF AND THEIR DUTIES

Every Commander has to assist him certain officers forming his staff. The duties of the Staff are (1) To assist the Commander in the execution of the function of his command, and (2) To assist the fighting troops and the services in the execution of their tasks. These officers are represented in subordinate formations by Deputies, Assistant Deputies, etc. In many cases branches of the staff may be amalgamated in the smaller formations.

The Staff is divided into four branches:

1. The General Staff.
2. The Adjutant- General Staff.
3. The Quartermaster-General Staff.
4. The Master-General of Ordnance Staff.

The duties of the various branches of the Staff are as follows:

1. The General Staff

a. Collection and dissemination of military intelligence.
b. Continuous study of the military situation and submitting of plans of operation to the commander.

(iii) Issuing orders and instructions to put into effect the plans of the Commander.
(iv) Collecting and distributing meteorological from the Air Force.
(v) Informing other branches of the Staff, and other services as to future plans.
(vi) Military training.
(vii) War Organization.
(vii) Staff appointments.
(ix) Arranging through the Corps of Signals for communication.
(x) Cyphers and censorship.
(x) Correspondence with the enemy.
(xii) Provision, distribution, and revision of maps; distribution of air photographs.
(xiii) Drafting dispatches and keeping historical records.

At G.H.Q. in addition.

(i) Secret service and internal security.
(ii) Propaganda.
(iii) Control of Press and Foreign Attaches.
(iv) Guides and Interpreters.
(v) Laison with Allied armies.
(vi) International and Martial Law.

The General Staff is organized in three sections.

(i) Operations section.
(ii) Intelligence section.
(iii) Staff duties and Training section.

2. The Adjutant General Stagg.

(i) Supply of personnel.
(ii) Care and removal of sick and wounded, and in special cases, members of the civil population.
(iii) Hygiene, and Sanitation.
(iv) Discipline, and the administration of military and martial law.
(v) Burials and registration of graves.
(vi) Disposal of Prisoners of War.
(vii) The welfare of the Army, including the supervision of the spiritual care of the troops and co-ordination of the work of philanthropic bodies.
(viii) The executive arrangements for the raising of new units or modifying of existing units.
(ix) Routine orders and ceremonials.
(x) General supervision of the pay service.
(xi) Reception and accomodation of official visitors.

The Adjutant General branch is divided into two main groups, each group being further subdivided;-

(i) D.A.G.'s staff at G.H.Q. and with formations in the field.

(a) Organization section.
(b) Personal services section.

(ii) The D.A.G.'s office at the base

(2nd. echelon)

(a) Recording the whereabouts of every officer and man and their qualifications.
(b) Recording the evacuation of every officer and man and reporting same to Home authorities.
(c) Recording deaths, location of Graves, reporting deaths to Home authorities, receiving and disposing of the effects of the dead.
(d) Provision of personnel by demands on Home authorities.
(e) Statistics - e.g., Strength, Casualties, Reinforcements, prisoners of war, sickness.

3. THE QUARTERMASTER-GENERAL STAFF

(i) Movement
Except when controlled by the General Staff in view of possible action:

a. Embarkation and disembarkation.

b. Control of all systems of communication, whether military or civil, whether road, rail, or inland waterway.

(ii) Maintenance

a. Supervision and co-ordination of the services responsible for provision of supplies; Engineer, R.C.A.S.C., Transportation, Veterinary Stores, and Animals.

b. Within its own sphere, notifying Home authorities of the priority in order of provisions and distribution.

c. Allotting accommodation of all kinds.

d. Ensuring scales of reserves of animals, supplies and spare parts for R.C.A.S.C. vehicles are maintained and not exceeded.

e. Provision of labour.

f. Institutes, arrangements for messing, bathing, laundry, fire protection, and the utilization of by-products.

4. THE MASTER-GENERAL OF THE ORDNANCE STAFF

(i) Ordnance Service, including mechanical vehicles and spares thereof, not provided by the R.C.A.S.C.
(ii) Fixing the reserves of ammunition and explosives.
(iii) Research, design, and experiment with Ordnance Stores, all mechanical vehicles, Engineer and Signal equipment.
(iv) Indication to "Q" of requirements for quartering, transport, building and civilian labour.
(v) Indication to "A" of requirements of military labour.
(vi) Salvage in connection with "Q".

Precis No. 2.

Supply in the Field.

1. For the purpose of maintaining supplies (rations, ornance stores, engineer stores, canteen stores, and mail) a normal system has been evolved. It must be understood, however, that the system is an elastic one and is capable of modification as may be necessary to meet special circumstances. Such modification as may be necessary to meet special circumstances. Such modifications are generally only matters of detail and not of principle.

Principle of Supply in the Field.

The principle of supply is that units should have with them, or within reach (i.e. ahead of railhead), two days supply, exclusive of the iron ration, and that these stocks should be replentished by daily delivery at a point within reach of the troops. The period covered by one days' supply is from midnight to midnight.

Sources of Supply.

(i) Home country and purchase abroad.

(ii) Local purchases in the theatre of operation.

Chain Supply.

To facilitate the handling of supplies over the normal chain of supply the following "key" points appear -

(i) Ports of entry.

(ii) Base Depots.

(iii) Marshalling Yards and Regulating Stations.

Supplies and stores for any formation may have to be issued from different depots, possibly many miles apart and on different railway lines. These supplies and stores have to be collected together before despatch to railhead.

For this purpose Marshalling Yards with adequate siding accommodation are organized. At these yards trucks are assembled from the different depots, complete trains are made up and their dispatch to forward destinations is controlled. Empty rolling stock coming from the front is also received by and distributed from marshalling yards.

Apart from the above functions, however, it is necessary to ensure that trains shall arrive at railhead at times convenient for their reception and clearance. Morever changes may have occurred in the forward area subsequent to the dispatch of the train from the base which make a change in the composition of the train, and possibly in the contents of the trucks, necessary. To meet these requirements Regulating Stations are established.

To permit of the prompt functioning of a regulating station it is desirable that depots of the different nature of stores be in the vicinity of the Regulating Station.

When the length of the L. of C. from base to railhead does not exceed 12 hours run, the regulating station and the marxhalling yard established in connection with the base depots may be combined.

When the L. of C. is more than 12 hours' run a regulation station will have to be established further forward (approx. 6 hours' run from railhead), and in order to meet emergencies, stocks will have to be kept at or near the station. The extent of these stocks will increase with the length of the L. of C.

(iv) SUPPLY RAILHEAD

In war railway facilities will have to be made use of as they exist, but they can often be improved as time, labour and materials can be made available. The chief essential for a supply railhead is that it should present facilities (sidings, yards, entrances, approaches, etc.) for rapidly unloading the bulk supplies from the trucks into the lorries of the Supply Columns without blocking through railway traffic routes. (A supply pack train normally consists of some thirty-eight trucks.) A railhead should, as fas as possible, be protected from bombardment by guns or aeroplanes. The roads in the vicinity of a railhead should be suitable for the carriage of considerable traffic without liability to congestion.

(v) THE DIVISIONAL SUPPLY COLUMN

This is the unit which takes over the supplies from the Pack trains when it reaches Supply Railhead. The Supply Column is organized into Headquarters and two identical Echelons. Each Echelon works forward on alternate days, usually beginning this forward move in the evening, delivering the supplies to Unit Delivery Points, then returning to Railhead in the early morning and at once unloading the next Pack Train. During the following day, usually in the vicinity of Supply Column Headquarters, bulk is broken i.e. the supplies are loaded in the requisitioned quantities into the lorries going to the various units. The remainder of the day, the following night, and the following day, are used to rest for the men and maintenance of the vehicles. During this period the 2nd Echelon of the Supply Column carries out the delivery of supplies in the same manner as previously outlined.

(vi) RENDEZVOUS

These are named by divisional headquarters and are notified to supply columns. They are not always necessary, but may be required, particularly during very mobile operations, when the localities of meeting points cannot be foreseen, when supply columns begin their forward moves, or when there is likely to be much change in the distribution of troops in the forward area. At rendezvous the order of march or detailed distribution of sub-sections of the supply column can be adjusted if necessary to suit the distribution of units in the area of delivery points.

(vii) MEETING POINTS

During the period of the forward move of the supply column from the railhead area there may be considerable movement of the units to whom they will ultimately deliver their supplies, and the delivery points cannot be fixed in advance. In consequence, as soon as the tactical situation admits and the location of units at the time of delivery can be determined, "meeting-points" are chosen by brigade headquarters, notified to divisional headquarters and thence by C.R.A.S.C. to the supply column. The supply column commander directs the sections of the supply column to the appropriate meeting points at the time arranged, and brigade headquarters arranges for units to send guides to these meeting points, to pick up their own lorries and guide them to the unit transport lines, the delivery point.

A meeting point should be some locality easily recognizable on the map and on the ground in darkness, if necessary; it should be a place convenient for the assembly of a number of lorries, and should be as near as it is reasonably possible to the locality of the transport lines of the various units concerned.

This part of the process of delivery of supplies to units is facilitated by liason in advance between supply officers and staff captains of brigades concerned. This liason should always be established if possible.

(viii) Delivery Points.

There are selected points where the Divisional Army Service Corps Units transfer loads to the unit 1st line transport.

Method of issue within Units.

(i) Cookers may move up close behind companies and hot food carried to Platoons.

(ii) Rations may be cooked in transport lines and issued cold to Platoons after dark.

(iii) Preserved rations may be issued.

Indenting for Supplies.

An indent (A.B. 55) is made out daily by every unit (Quartermaster), showing the actual strength existing on the day it is made out, after allowing for casualties and reinforcements officially notified.

Brigade supply officers normally receive these indents from units at the meeting points each evening, and thay are handed to the senior supply officer at railhead the following day for consumption two days later. Thus, A.B. 55 made out by the unit on Sunday evening reaches railhead on Monday; supplies are loaded that day and delivered to units on Tuesday evening for consumption on Wednesday.

It will be seen therefore that the normal supply situation at any given time can be approximately stated, assuming that railway trains are running reasonably to time and that there is nothing abnormal in the tactical situation affecting supply arrangements.

Example of Ration Situation at 1800 Hrs. Tuesday.

(i) Each officer and man carries an emergency ration which may not be consumed except on the order of an officer when no other rations are available. It must be inspected periodically.

(ii) The uncomsumed portion of Tuesday's ration is in the unit cookers.

(iii) Wednesday's supplies are in 1 Echelon, probably enroute to the Unit.

(iv) Thursday's supplies are loaded in 2 Echelon.

(v) Friday's supplies are in pack train enroute to S.R.N. and will be unloaded there by 1 Echelon when it returns from it's run.

2. THE SUPPLY OF PETROL AND LUBRICANTS

With disappearance of the horse, the supply of petrol has greatly increased in importance and has therefore been given a separate chain of supply.

This chain differs somewhat from that of supplies as demands are not a daily fixture and are subject to sudden and violent fluctuations.

All units have on their establishment one or more vehicles for the carriage and distribution of spare petrol. (50 miles per vehicle is an average figure).

Replenishment within the Division is carried out by the Divisional Petrol Coy. This unit carries a reserve on wheels equivalent to 50 miles per unit vehicle. The Q Staff of the Division estimates the likely consumption and in conjunction with the C.R.A.S.C. decides the number and location of the Petrol Points to be formed. At these Petrol Points the unit petrol vehicles are replenished. At times they may be far enough forward to replenish all the umit vehicles directly.

The Divisional Petrol Coy. refills at a Petrol Refilling Point from vehicles of the Corps Petrol Park.

Petrol is issued on demand made on A.B. 55.

One section of the Petrol Coy. carries blankets and spare clothing.

3. REPAIR AND REPLACEMENT OF MATERIAL

(a) Repair of equipment in the field is organized as follows:

(i) Units have attached to them a certain establishment of artificers and tools, which enables them to carry out minor repairs known as "1st line repairs".

(ii) Those repairs beyond the ability of units to carry out, and which do not require too much time, are repaired in Ordnance Field Workshops, and are termed "2nd line repairs".

(iii) Heavy repairs beyond the means of the 2nd line are sent back further to Base Ordnance Workshops as 3rd line repairs.

(b) Repair, recovery, and replenishment of Mechanical Vehicles in the Field.

Two parallel organizations exist for the repair, recovery and replenishment of mechanical vehicles in the field; one controlled by the Royal Army Ordnance Corps, the other by the Royal Army Service Corps. The division of responsibility between the two organizations is based in part on the type of vehicle and in part on the corps of the driver of the vehicle.

In the first category fall all track or semi-track vehicles for which the R.A.O.C. alone are responsible. In the second category, which comprises all wheeled mechanical transport, the R.A.O.C. are responsible for all vehicles not driven by R.A.S.C. drivers which are practically restricted to the 1st line transport of all other than R.A.S.C. units. The R.A.S.C. are responsible for all vehicles driven by R.A.S.C. drivers.

(i) R.A.O.C. Repair Organization.
The Ordnance repair organization in a Division consits of an Army Field Workshop, comprised of:

(a) Main Workshop.
(b) Thre Recovery Sections.
(c) Light Aid Detachments.

Light Aid Detachments are provided on the basis of one per Infantry Brigade, Artillery Regiment, Dividional Signals, and Field Park Companies. They are permanently attached to formations or Units. The composition of an L.A.D. attached to an Infantry Brigade is

Motor Cycles 1
Motor Car.....1
Lorry 30 cwt.
breakdown.....1
Stores.....2

The L.A.D.'s assist units with their 1st line Repairs but they do not evacuate derelict vehicles.

The Recovery Sections are provided on the basis of one for the Divisional Artillery, one for the remainder of the Division, and one for Corps Troops. Their duties consist of the recovery of breakdowns, temporary repairs, and evacuation to the main workshop for 2nd line repairs.

Third line repairs are carried out by Base Ordnance Workshops which have mobile sections known as L. of C. recovery sections whose main role is the evacuation of derelict vehicles to the workshop.

New vehicles are normally supplied when necessary from Advanced or Base Depots. The driver accompanies the derelict vehicle as far as railhead where he takes over the new vehicle. Ordnance Field Parks are provided on the basis of one per Corps to supply urgent replacements of spare parts and assemblies.

Medical Organization	Ordnance Organization.
R.A.P.	L.A.D.
Field Ambulance and M.A.C.	Recovery Sections
C.C.S.	Main Workshop (Army Field Workshop)
Ambulance Trains	L. of C. Recovery Sections
General Hospitals	Base Ordnance Workshops

(ii) R.A.S.C. Repair Organization

The R.A.S.C. maintains and repairs in the Field all M.T. vehicles on the strength of R.A.S.C. units. In addition certain companies are charged with the maintenance and repairs of R.A.S.C. vehicles operating with other arms of the service which have no repair facilities of their own, and whose vehicles are not maintained by the R.A.O.C. (e.g. Ambulances).

Every R.A.S.C. (M.T.) unit is provided with a mobile workshop section as an integral part of its establishment. The workshop section consists of self-contained sub-sections on the basis of 1 subsection for each 42 vehicles.

Repairs are carried out as follows:

a. 1st Line repairs are carried out by the drivers, assisted when necessary by breakdown detachments from the workshops.

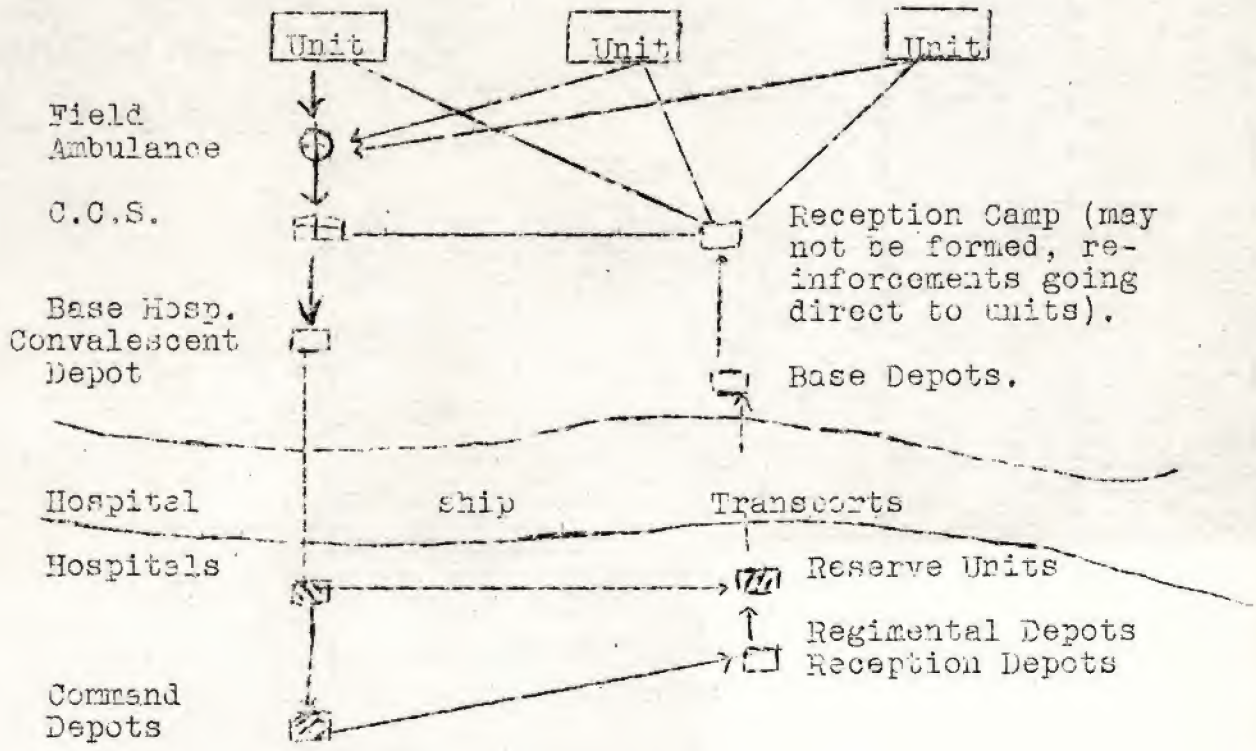
b. 2nd Line repairs are done by the workshop section.

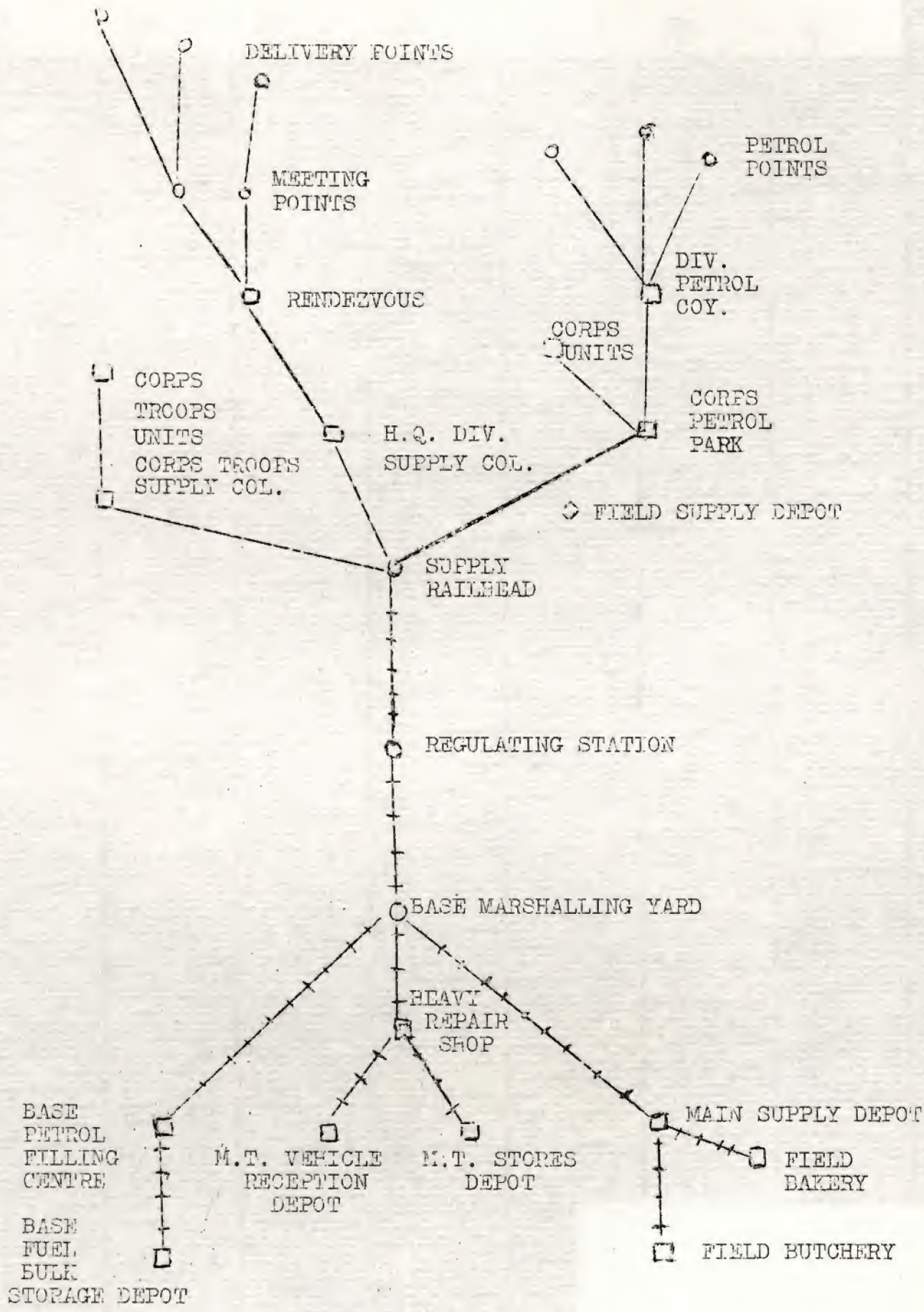
c. 3rd Line repairs are carried out by advanced or Base Heavy Repair Shops.

Replacement is made from the Mechanical Transport Vehicle Reception Depot (M.T.V.R.D.) It receives damaged vehicles, sends them for repair to the Heavy Repair Shops, and when repaired issues them direct to units.

In the case of the R.A.O. C. organization, recovery and repair are distinctly separated, the work being performed by different units. In the R.A.S.C. repair and recovery are not separated.

4. The following diagram illustrates the system of reinforcement:





R.C.A.S.C. SUPPLY SERVICES (less Ammunition)

ADMINISTRATION

PRECIS NO. 3

QUARTERS IN THE FIELD

General

Rest is absolutely necessary for man and horse and cannot be dispensed with even in time of war. Therefore, quarters must be provided for troops in the field. Quarters may take the form of:

1. Billets.
2. Close Billets.
3. Camps.
4. Bivouacs.
5. Trench Shelters and Dugouts.

The choice of quarters will be governed by the tactical situation.

Billets and Close Billets

Billets (accommodation obtained from the inhabitants) are the usual form of quarters during War in a civilized country when not in the immediate proximity of the enemy.

They may be obtained with or without subsistence, or with partial subsistence. Subsistance in a given area can be supplied for double the population for a period of one week. Without subsistence ten men per inhabitant can be billetted in agriculture districts and five men per inhabitant in urban districts.

Billets allow of proper rest, shelter from the weather, facilities for cooking, concealment from aircraft, and the cellars afford cover in case of bombardment. The great disadvantage however, is the dispersion of the troops.

Close Billets allow a portion of the troops to enjoy the advantage of billets, while the remainder bivouac close to the billets. This allows for greater concentration than billetting.

Camps.

Camps admit of concentration, give shelter, and are healthy. However, tents require considerable transport and are not always available. For standing camps, huts are healthier and more comfortable and may replace tents if a force is likely to remain halted for a long time.

Bivouacs and Dugouts

Bivouacs are encampments without tents or huts. They allow of concentration and readiness, but are trying to the health of men and horses in cold or wet weather. They should only be resorted to when tactical considerations render it imperative.

Trench shelters and Dugouts are used in position warfare. Prolonged occupation of dugouts in trying to health and detrimental to discipline and morale.

Camp Sites

The site of a Camp or Bivouac should be dry, and on grassy ground if possible. Steep slopes, clay, low meadows, newly turned earth, narrow valleys, thick brushwood, and old camp sites, should be avoided. A gentle slope helps drainage.

(Quarters Contd.)

Distribution of Quarters

The following rules will be followed in distributing troops to quarters:

1. Officers must be close to their men.
2. Both sides of the street should be occupied by the same unit.
3. Dismounted troops should be nearest the water supply.
4. H.Q. and Signal Offices should adjoin each other and be clearly marked. H.Q. must be allotted a position which will facilitate the transmission of orders.
5. Depots should be near good roads.
6. Headquarters and Medical units have first claim on buildings.
7. When shelter is limited, mounted troops have precedence over dismounted troops.

Disipline in Quaters

Troops must not leave the immediate vicinity of their quarters without permission. If a state of constant readiness is ordered, troops must not leave their quarters unless fully accoutred.

All officers will be saluted and strict disipline will be maintained at all times in quarters.

Billetting Party.

When billets are to be occupied a billetting party should be sent ahead whenver possible.

The party for an infantry Battalion (or like unit) will usually consist of 1 Officer, 1 N.C.O. for H.Q. and 1 N.C.O. per Coy. The Officer will be provided with a billetting demand.

On arrival in the allotted area the officer will proceed to the town Major, or Area Commandant, or if neither of these have been appointed, to the Mayor or Chief of Police, and hand him the billetting demand.

Accommodation having been allotted, and information received regarding Water Supply, Sanitation, or anything else of importance the Officer will select H.Q. Administrative Offices, Stores, ect., and subdivide the accommodation amongst the Companies.The N.C.O.'s will then mark on the doors, with chalk, the names of Officers, or the number of men or horses the billet is to hold.

The billetting party will then meet the incoming troops and guide them to their billets.

Sanitation

Before occupying quarters proper sanitary precautions will be taken.

ADMINISTRATION

PRECIS NO. 4

Duties of Regimental Officers

Duties of a Commanding Officer

1. Responsible for training, disipline, and interior economy of the unit.
2. Responsible for the safe custody of all records.
3. Responsible for appointment and promotion of N.C.O.'s.
4. Responsible for the conduct of all Regimental Canteens and Institutes.

Duties of the Second-in Command

1. Aids the C.O. by instruction of Junior Officers and the maintenance of discipline generally. He is especially charged with the interior economy of the unit.
2. He acts as the President of all Regimental Institutes.
3. He is responsible for the auditing of all accounts.
4. He is in charge of weapon-training.

Duties of the Adjutant

1. He is the staff officer of the C.O. in whose name and by whose authority he performs all duties and issues all orders.
2. He is responsible for the organization and efficiency of the orderly room, and the correctness of all records and returns.
3. He issues all orders and sees that they are carried out.
4. All reports and communications to the C.O. are made through him.
5. He prepares cases for Court-Martial.
6. He keeps the Officers Duty Roster.
7. He is present at all parades.
8. He will carry out periodical inspections of the unit.
9. He is responsible for recruits' training.
10. He is in charge of the unit police.
11. The following are under his immediate order:

    The R.S.M.
    The Provost Sergeant.
    The Drill Instructors
    The Sergeant Drummer
    The Orderly Room Clerks.

DUTIES OF THE QUARTERMASTER

1. The Q.M. is a staff officer to the C.O. to whom he is responsible for all matters concerning Arming, Equipping, clothing, feeding, quartering, and transportation.

2. He is responsible for the correctness of the Equipment, Barrack Stores, and Clothing Ledgers, and all indents, vouchers, returns, and correspondence connected with his department.

3. He will see that all personal equipment, clothing, and necessaries, are correctly and clearly marked with the regimental number of the soldier to whom they are to be issued before they are removed from his stores.

4. He is charged with the general supervision of barracks and Camps. With respect to the former he is responsible for their heating, lighting, sanitation, and cleanliness, and for their general maintenance and prompt repair; and with respect to the latter, that adequate accommodation and water supply are provided, and that the lines are kept clean, sanitary, and free from obstruction.

5. He will conduct regular inspections noting damages and deficiencies. A list of these will be submitted to the C.O. so that they may be charged to the individual concerned.

6. He is responsible for the general proficiency of the Cooks, and for the proper equipment and cleanliness of the Cookhouses. He will assist the 2nd in command in the supervision of messing throughout the Unit.

7. He is responsible for the satisfactory conduct of the Regimental Workshops.

8. He is responsible for the maintenance of all fire precautions.

9. He is responsible for the transport arrangements in connection with moves of his unit.

10. On the march he will precede his unit accompanied by the Pioneers and such working party as may be necessary, and after selecting, a suitable site will lay out the camp and prepare the necessary facilities for watering and sanitation.

DUTIES OF OFFICERS EMPLOYED IN MILITARY HOSPITALS

I. Medical Officer in Charge

1. He will be responsible for all duties connected with his hospital, their distribution and completion.

2. He will satisfy himself that the hospital is organized and equipped in accordance with existing regulations. He is responsible for all buildings, equipment, stores, and supplies.

3. He will issue the orders necessary for the carrying out of all hospital duties, and for the maintenance of discipline.

4. He will satisfy himself that all supplies are of satisfactory quality, that there is a sufficient supply, and that they are properly accounted for.

5. He will frequently inspect all stores and equipment to satisfy himself as to their condition. He will verify ledgers and inventories. He will make sure there is no undue accumulation of stores.

6. He will see that all utensils intended to be used by enteric patients are marked with the letter "E", that sheets, pillow slips, and clothing used by venereal or Infectious cases are stamped with the letters "V" or "I" as the case may be, and are kept separate.

7. He will ensure that all hospital books and records are properly kept, and that all reports and returns are duly rendered.

8. When a patient under treatment becomes seriously or dangerously ill he will at once inform the O.C. of the unit so that if practicable his relatives may be notified. In the field these reports are submitted to the D.A.G. 2nd Echelon at the base.

9. When a patient dies in hospital a report will be made at once to the mad's O.C. and the O.C. station. In the field this report is forwarded to the D.A.G. 2d Echelon.

10. The officer in charge of a hospital will render a daily state of the sick in hospital to the C.C. Station In the field this report is rendered to the D.A.G. 2d Echelon.

II. Officers Doing Duty

1. Officers doing duty in a Military Hospital will be responsible to the Officer in Charge that the duties assigned to them are duly carried out, and will report to him any breach of discipline, irregularity, or neglect on the part of the hospital staff or patients.

2. He will treat such cases as are admitted to the hospital and allotted to him. He will draw to the attention of the Officer in Charge any serious or important case and will, in all matters of professional difficulty, seek his advice. This will not, however, relieve him from personal responsibility for the proper treatment of patients under his care.

3. He will make out Case History Sheet (M.F.B. 313a) in triplicate for each patient admitted. He will make special notes on all cases of professional interest, serious illness, or such others as are likely to be required for future reference.

4. When a patient is considered ready for discharge he will bring them before the Officer in Charge who if he concurs will initial the diet sheet and notify the unit the day preceeding discharge.

5. He will, without delay, suggest and change of diagnosis that may be required. The letters D.C. (disease changed) will then be entered in red ink in the remarks column of the A.& D. Book. If a new disease should supervene the case should be discharged and a fresh entry made.

6. He will see that clothing and bedding issued to patients is sufficient and suitable.

7. He will undertake the training of N.C.O.'s and men doing duty under his charge.

8. He will make all entries in his own handwriting on the diet sheet. Should additional nourishment be required before patients are placed on the hospital diet, extras will be ordered in accordance with regulations.

9. All treatment prescribed must be written in the Ward Book in English. Prescriptions will be made out for orders on the dispensary.

III. Orderly Medical Officer

1. Detailed usually for a twenty-four hour tour of duty, during which time he will remain within the precincts of the hospital or encampment, except when called away on duty.

2. He will accompany the Q.M. when supplies are received and satisfy himself that they are of good quality. He will see that the diets and extras for the sick are properly cooked and served. He will visit the kitchen to ensure its cleanliness.

3. He will visit the wards at intervals. He will investigate all complaints. He should make one visit during the evening.

4. He will perform all necessary and urgent duty to the sick in hospital during the absence of the Officers in Charge of the cases. He will deal with fresh cases as they present themselves. He will inspect men to be discharged to ensure that they are in possession of their proper kit, and that all their clothes are clean. He will examine men merely detained for the day to decide whether they are fit to return to barracks or should be admitted.

DUTIES OF OFFICERS IN MEDICAL CHARGE OF TROOPS

1. To carry out such duties as may be detailed to him by the O.C. the Unit to which he is attached.

2. To conduct daily sick parades, disposing of the sick in the following manner:

The name of every soldier reporting sick will be entered on the sick report (M.F.B. 292) which will be prepared in duplicate by the Unit.

He will enter on M.F.B. 292 a diagnosis of each case reporting sick, and the disposal of the case in the remarks column in the following terms:

a. M & D - Medicine & duty for trivial cases who can return to duty.

b. Attend "A", "B", or "C" - for all cases who require treatment at the Medical Inspection room.

"A" - Attend for treatment but perform all duties.

"B" - Attend, but patient to perform light duties only (Specify nature.)

"C" - Attend, and be excused all duties.

c. Detained - detained in hospital or reception station up to one day, and subsisted on extras during this period.

d. Hospital - admitted to hospital.

e. Duty - reported sick unnecessarily.

One copy of M.F.B. 292 is returned to the unit, and one copy kept on file for record purposes. One copy to forward to the D.M.O.

3. He will carry out frequent sanitary inspections and make recommendations to the O.C.

4. He will inspect the men periodically to ensure the absence of infectious and venereal disease.

5. He will attend physical training classes and give advice.

6. He will closely watch the health of new recruits, weighing them periodically.

7. He will report to the C.O. at once any case of sudden death out of hospital, or severe accident, or the outbreak of an infectious disease.

PRECIS NO. 5

D O C U M E N T A T I O N

I Official Books, Publications, Etc.

Officers require a general knowledge of the contents of the principal official books, regulations, etc., in order that they may know where to look for detailed information on any military subject.

N.B.: Canadian "Militia" now means "Canadian Army".
N.P.A.M. now refers to "Canadian Army" (R.F.).
C.A.S.F. now refers to "Canadian Army" (A.R.).

1. Militia Act - This is an Act of Parliament passed by the Dominion Parliament. It lays down the law under which the Militia exists. Its provisions can only be altered by a further Act of Parliament. (See K.R. Can. Appendix 1.

2. The Army Act - This is an Act of the British Parliament, and it contains sections relating to discipline, enlistment, terms of service, extension and prolongation of service, re-engagement, transfer, discharge, billeting and impressment of carriages. Where not inconsistent with the provisions of the MILITIA ACT of the regulations made thereunder it applies to the Canadian Militia. The A.A. is given in the M.M.L. and quoted thus A.A. Sec. 24 (3).

3. Army and Air Force (Annual) Act - This is the means of continuing the A.A. in force from year to year. It also fixes the price for billets, etc., for the coming year, and makes any necessary amendments to the A.A.

4. Pay and Allowance Regns. - These govern the pay and allowances of the Militia. They are made under the authority of the Militia Act, now partly supplanted by: Financial Regulations and Instructions for the C.A.S.F.

5. King's Regulations and Orders for the Canadian Militia This is a Canadian Publication. It deals with the questions of command, rank, discipline, duties, interior economy, military training and education, movements by land and sea, extension of service, re-engagements, transfer, discharge, leave and furlough, dress, correspondence, regimental book, etc. The book is divided into numbered paragraphs which are referred to thus: K.R. Cn. 242

6. Dress Regns. - Gives the details of dress for officers.

7. Clothing Regns. - Gives the details of dress for other ranks, and the rules for the issue of clothing and necessaries.

8. Mobilization Regns. - Contain instructions as to the arrangements and procedure for mobilizing.

9. Field Service Manual - One is issued for each unit, and contains detailed tables as to the units establishment, transport, ammunition, exact stores and load carried on each vehicle or animal and how to be packed.

10. Manual of Military Law - See lectures on Military Law.

11. FIELD Service Pocket Book - Contains in compact form information on nearly all military subjects and would be of use on active service. It is worth a careful study.

12. FIELD SERVICE REGNS. VOL. 1. Lays down the principles upon which an Army in the Field is organized and administered.

13. FIELD SERVICE REGNS. VOL.11. Lays down the principles upon which operations in the field are to be conducted.

14. WAR ESTABLISHMENTS. These contain all details of strength by ranks of each unit, and also the details of animals and rations carried for men and horses.

15. PEACE ESTABLISHMENTS. Are published from time to time in G.O.'s and are usually in pamphlet form.

16. MANUAL OF MAP READING AND PHOTO READING AND FIELD SKETCHING:

17. MANUAL OF FIELD WORKS (ALL ARMS) Gives details of field works which Arms other than Engineers are required to know.

The following books and forms are of particular interest to Medical Officers:-

1. ROYAL ARMY MEDICAL CORPS TRAINING, 1935. Contains information of workings of the Medical Service in war, Geneva Convention, Stretcher Drill, Training of personnel in First Aid.

2. INSTRUCTIONS FOR THE R.C.A.M.C. AND C.A.D.C. 1937. Contains all details regarding the working of the medical service in peace, in Camp and Military Hospitals.

3. STANDING ORDERS FOR THE ROYAL CANADIAN ARMY MEDICAL CORPS. Contairs instructions for training of R.C.A.M.C. other ranks, hospital duties, duties of N.C.O.'s, etc.

4. ARMY MANUAL OF HYGIENE AND SANITATION.

5. MANUAL OF TREATMENT OF GAS CASUALTIES.

6. NOMENCLATURE OF DISEASES. List of various injuries and diseases to be followed in compiling states of sick and wounded. Morbidity Code is being used at the present time.

7. ADMISSION AND DISCHARGE BOOK. Used in both peace time and war hospitals, at camp, and on active service.

8. N.P.A.M. ATTESTATION CARD (M.F.B. 235) (d) Section to be compiled by M.O.

9. MEDICAL BOARD FORM (M.F.B. 227). This is a form which is used whenever a complete medical record of a man is required. It is completed on all cases of serious illness, when special treatment is recommended, and on discharge.

10. DENTAL HISTORY SHEET (M.F.B. 465). A form on which a dental record of a man on enlistment, and subsequent treatment given, is entered.

11. M.F.M. 1 and M.F.M. 2. These are the attestation forms in use in the C.A.S.F. The third page is devoted to the Officer's or Man's Medical examination on enlistment. Page 4 contains space for all hospital entries.

12. Morning Sick Report (M.F.B. 292): A form on which accompanies each man reporting sick and on which the diagnosis and disposal of the case is entered by the Medical Officer.

13. Daily and Monthly Return of Sick (M.F.B. 1405): Used for compiling consolidated returns for the information of the D.G.M.S.

The following forms are used on active service only:

14. Field Medical Card (M.F.W. 3118): A form attached to a casualty at the R.A.P. showing diagnosis and treatment. Further entries are made at the various posts the patient passes through.

15. Army Form A. 36: Nominal roll of patients in hospital or Field Amb. sent weekly by O.C. Field Amb. and C.C.S. to D.A.G. 2d Echelon base.

16. Army Form W 3034: Nominal roll of patients in General Hospital sent daily to D.A.G. 2d Echelon base.

17. Army Form I B33: Medical progress report on Prisoner's of War weekly to D.A.G. 2d Echelon base.

18. Army Form B 213: By all units weekly to D.A.G. 2d Echelon base showing personnel on strength, casualties, reinforcements and alterations.

19. Medical Units notify D.A.G. 2d. Echelon by wire, first admission of all officers, showing rank, name, unit, nature and degree of disability.

II. OFFICE WORK AND CORRESPONDENCE

1. General Instructions

Do not refer to superior authorities any matter you can decide yourself.

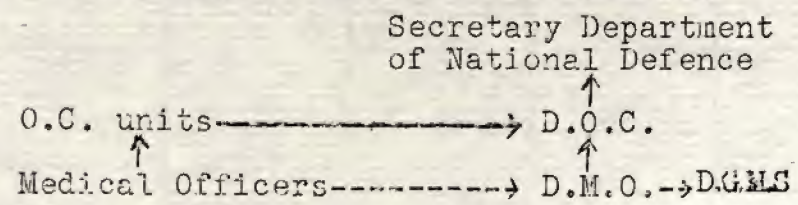
Deal with correspondence promptly.

Suppress tendency towards unnecessary correspondence.

An Officer is responsible for the correctness of documents submitted over his signature.

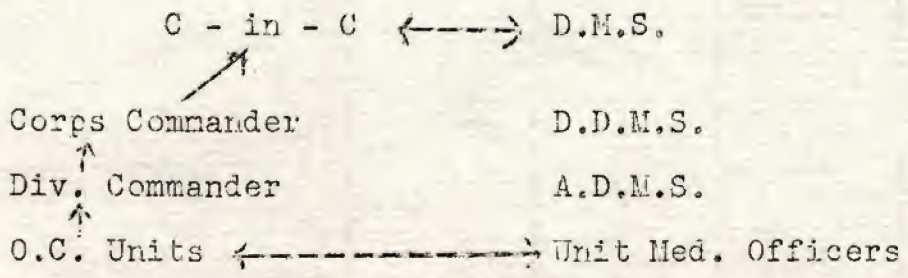
In transmitting correspondence to higher authorities, an Officer should record his opinion or recommendation on the subject matter, adding such observations based on local knowledge, as may enable a final decision to be arrived at.

2. Channels of Communication in Canada



The heavy lines indicate the normal channels, the dotted lines the channels used for purely technical matters.

3. Channels of Communication in the Field (as it affects Medical Officers.)



4. Forms of Correspondence

Only one subject will be dealt with in a letter, the nature thereof which will be indicated by a marginal note prior to the first paragraph. Letters must not be addressed to persons by name but to them in the capacity which they fill, e.g., D.M.O. M.D. 3.

All paragraphs will be numbered. The rank and unit or appointment will be shown after the signature. Between offices using the same files memoranda may be passed in the form of minutes, which are numbered consecutively.

5. Secret, Security, and Confidential Documents

a. Secret: These are documents pertaining to preparation for war, plans, intelligence, dispositions and movements, which cannot be reasonably deduced from information generally available, and information in technical research and progress, and cyphers and codes.

b. Security: These include documents, which for purposes of personal study or professional training, must be circulated and at the same time should be safeguarded.

c. Confidential: This category will be used for documents the circulation of which should be restricted for administrative reasons.

Secret, security or confidential documents for transmission by post, or otherwise, outside the office in which they are held will be enclosed in two sealed envelopes or wrappers of which the inner cover only will be marked "Secret" "Security", or "Confidential" to suit the category of the contents. In the case of secret documents, the inner envelope will be wax-sealed, while in the case of a confidential report on an officer the inner envelope will be so marked as to indicate its contents. The outer envelope will be superscribed with the address only. The delivery of secret codes and ciphers, and of secret or confidential signal books will always be undertaken by an officer personally; in no circumstances will they be despatched by post. All envelopes marked "Secret", "Security" or "Confidential" will be opened by an officer only and receipt will be acknowledged at once.

The Officer to whom a secret, security or confidential document is entrusted is personally responsible for its safe custody. He will ensure that its contents are disclosed only to those who, in his discretion, are required by the nature of their duties to be aware of it. He will not study it in the presence of persons not entitled to see it and will not leave it exposed during his absence.

Secret documents of far reaching importance, such as cipher books, signal publications, mobilization plans, defence schemes strategic appreciations, and secret intelligence papers will always be kept in steel safes, when not in actual use. Safes must be effectively protected.

Secret, security or confidential publications will not be copied except by permission of the initiating authority. The publication of official documents or information, or their use in personal controversy, or for any private purpose, without due sanction from superior authority will be treated as a breach of official trust under the conditions of the Criminal Code of Canada.

To reduce the risk of loss and to bring any deficiency quickly to light, all secret, security or confidential publications or register charge will be checked on 1st. Feb., 1st, May, 15th Aug., and 15th November by their holders to verify that all such publications are still in possession and all amendments have been incorporated. On completion of the check a certificate will be rendered to the distributing authority concerned that the publications have been checked, are in safe keeping, and that all amendments have been incorporated.

III Reports and Returns in the Field.

1. General.

The first place on the line of evacuation where a permanent record on a casualty can normally be made is at the M.D.S. or W.W.C.P. if the latter is formed. Whenever circumstances permit, a manuscript record will be kept in the A.D.S. so that enquiries from regimental units as to the disposal of particular personnel may readily be answered. This may take the form of a duplicate copy of nominal roll of casualties which are sent to the M.D.S.

In quiet times recording can easily be carried out by the normal staff of clerks of the medical unit forming the M.D.S. but when large numbers of wounded have to be recorded, as during an action, it will be found necessary to increase the staff of clerks M.D.S. or W.W.C.P. is formed, the D.D.M.S. will arrange that each division engaged be supplied with two or more extra clerks from the above units.

The importance of the most careful recording and reporting of all casualties by medical units cannot be over emphasized. Apart from their being the source from which the general medical statistics of a campaign are compiled, they should contain the complete medical history and record which will be a deciding factor in the event of an individual subsequently making a claim to a gratuity for a disability received.

Note: Where there is no corresponding Canadian Form the British form number is given.

2. Principal Returns of a Regimental Medical Officer.

a. Sick Report. (M.F.B.) made out for those reporting on sick parade. If the individual is being evacuated to the Field Ambulance the Field Medical Card is also filled out.

b. Field Medical Card AFW 3118) and Field Medical Card Envelope (AFW 3118A).
Made out for casualties and all those being evacuated to the Field Ambulance. Their disability is shown on the form. Entry is made on the Field Medical Card of injections given or if tourniquet is used (also mark same on forehead with indelible pencil.)

c. A daily return of all casualties will be given by the medical officer to the O.C. unit in which the casualty occurs, in order that his Daily Strength Return (AFW 3006) which is telegraphed to the Officer i/c 2d Echelon is accurate.

3. Principal Returns of a Field Ambulance

a. Completion of Field Medical Card.

b. The O.C. the Field Ambulance will report the deaths of all officers by telegraph at once to the Officer i/c 2d Echelon, and confirm by post the same day.

c. The O.C. the Field Ambulance will report the deaths of other ranks as they occur by post to the Officer i/c 2d Echelon.

d. A weekly report on AFA 36 (Nominal Roll of Patients in Field Ambulances and Casualty Clearing Stations) of all admissions, discharges, transfers and deaths of officers and other ranks will be sent to the Officer i/c 2d Echelon.

e. Admission and Discharge Book (AB 27 A). Particulars of every case admitted or transferred will be entered in the above book.

NOTE:

1. In reporting battle casualties, the following terms only will be used:

Killed in action
Died of Wounds
Missing
Wounded (nature of wounds to be stated if possible)
Wounded (remaining at duty)

Neurological and gas cases will be classified respectively as:

Sick (N.Y.D. G.)
Sick (N.Y.D. N.)

until a definite diagnosis has been established.

The officer i/c 2d Echelon will amend the classification on receipt of the diagnosis from the medical units concerned.

2. Entries on AFW 3118

As it is important to standarize the entries. The following abbreviations will be adopted.

ATS / 1000 - Antitetanic serum - 1,000 units.

M½ / 1800 - Morphia gr. ½ given at 1800 hours.

T / 1820 - Tourniquet applied at 1820 hours.

U - Urgent case - should be marked with red pencil or ink.

C. During active hostilities, divisional commanders may require to be kept informed frequently of the number of casualties occurring and evacuated. To enable the data for the completion of this information to be available without delaying the evacuation of casualties, the following system should be adopted. At the door of the Receiving room of the M.D.S. a clerk is stationed who notes the number of cases, by units, walking or stretcher, as they pass and so at any moment the number admitted can be checked. A supply of buff slips with counterfoils is kept ready so that a slip can be gummed by one corner of the counterfoil to the A.F.W. 3118A (envelope) of each patient. While each case is being dressed, the buff slip and counterfoil are filled in with the number, name, unit, and diagnosis of the patient, in addition to the necessary entries on A.F.W. 3118.

When the case is passed into the evacuation section, the buff slip is torn off, leaving the counterfoil and passed to the clerk in charge of the A. & D. book AB27A who enters the particulars at his convenience.

When the case is loaded on an ambulance for evacuation, the counterfoil is torn off and passed to the A. & D. clerk as a notification that the case has been evacuated. The following examples illustrate the above method.

Case 1. If the clerk at the receiving room has recorded 200 cases, and the A. & D. clerk has 200 buff slips, this will indicate that 200 cases have been admitted, are dressed and await evacuation.

Case 2. If the clerk at the receiving room has recorded 200 cases and the A. & D. clerk has 200 buff slips plus 180 counterfoils, this will indicate that 200 cases have been admitted and dressed, 180 evacuated and 20 await evacuation.

The A. & D. clerk should arrange buff slips by units, thus enabling the telegrams, recording casualties by units to be made out easily. Further classification for evacuation may be simplified by a system of agreed signs on the buff slip, e.g. a circle for lying down cases, a square for walking cases, and additional signs as necessary to avoid a mixed load being dispatched when C.C.S.'s are reserved for particular classes of casualties.

In the case of officers and men of the Royal Canadian Air Force, or Royal Air Force, all documents and Returns regarding them are sent to the Base Personnel Staff Officer, R.C.A.F. as the case may be instead of to the officer i/c 2d Echelon.

4. Principal Returns of a Casualty Clearing Station

a. Personal numbers and names of officers and army numbers, names and corps of other ranks who are on the dangerously ill list, together with the nature and degree of disability will be telegraphed daily to the Casualty Section of the War Office, and repeated to the Officer i/c 2d Echelon.

b. Particulars of changes in condition of officers and other ranks on the dangerously ill list will also be telegraphed to the Casualty Section, War Office, and repeated to the Officer i/c 2d Echelon.

c. Reports of deaths of officers will be telegraphed at once to the officer i/c 2d Echelon and confirmed by post the same day.

d. Reports of deaths of other ranks will, as they occur, be sent by post to the officer i/c 2d Echelon.

e. A weekly report on AFA 36 of all admissions, discharges, transfers and deaths of officers and other ranks will be sent to the officer i/c 2d Echelon.

f. Admission and Discharge Book

5. Principal Returns of a General Hospital

a. As in (a) above.

b. As in (b) above.

c. As in (c) above.

d. As in (d) above.

e. A report on AFW 3034 (Nominal Roll of patients in Hospital) showing particulars of all admissions, discharges, transfers and deaths of officers and other ranks, will be sent daily to the officer i/c 2d Echelon A copy will also be forwarded direct to the Casualty Section War Office.

f. A weekly progress report on AFW 3034A of dangerous and serious cases (both officers and other ranks) will be sent to the Casualty Section War Office; a copy will also be sent to the officer i/c 2d Echelon.

g. Admission and Discharge Book.

h. AFI 1220 - Hospital Record Cards

These will be prepared for every patient admitted to or transferred to a General Hospital and particulars of each case will also be entered on the Admission and Discharge Book.

AFI 1220 will not accompany the patient from one medical unit to another, but on the Saturday in each week, the AF's I 1220 relating to all patients who have been discharged to duty, or to a convalescent depot, transferred to another hospital or hospital ship, or have died during the week, will be securely packed and despatched to the Under-Secretary of State (AMD 2), the War Office.

IV. Books

It is important that all books and publications issued to an officer be kept up-to-date and properly amended. When amendments have been put in, a list of same should be kept in the front or back of the book showing the number of the amendment, date of entry, and initials of person entering the same. In this way it can be seen at a glance if the book or publication is fully amended. When an officer ceases to belong to a unit of the Militia or C.A.S.F., the books in his possession will be handed over to his Commanding Officer.

V. War Diaries

A war diary will be kept in triplicate from the first day of mobilization or creation of the particular command or appointment by:

1. Each branch of the staff in the headquarters of a formation, a subordinate command and area or sub-area on the Line of Communication.
2. Unit commanders.
3. Commanders of detachments of a Unit.
4. Officer i/c 2d Echelon.
5. Officers holding technical appointments.
6. Base, auxiliary and advanced depot commanders.
7. Heads of services and their representatives. Controller of salvage and his representatives.

A war diary is secret. Its object is to furnish a historical record of operations and to provide data upon which to base future improvements in army training, equipment, organization and administration. It will be kept daily, each entry initialled by the officer detailed to keep it. It is to be noted that the extraction and retention of appendices, maps, etc. from a war diary is an offence under the Official Secrets Acts. The cover will bear the following inscription.

SECRET WAR DIARY
of

.....

From..... To.....

(Volume.....)

In so far as they are applicable, the following points should be recorded when preparing a diary:

A. Important orders, instructions, reports, messages or despatches received and issued, and decisions taken.

B. Daily location. Movements during the past 24 hours and present dispositions. March tables in the case of large units or of formations are of assistance.

C. Important matters relating to the duties of each branch of the staff.

D. Detailed account of operations. Exact hour of important occurrences, factors affecting operations, topographical and climatic. Clear sketches showing positions of troops at important phases.

E. Nature and description of field engineering works constructed or quarters occupied.

F. Changes in establishment or strength. As regards casualties the names and ranks of officers and the number of other ranks or followers. In addition in the case of units on the L. of C. changes in stores, transport, etc.

G. Meteorological notes.

H. Summary of important informaton received, whether military or political.

I. Appendices will be attached as detailed in F.S. Regs. Vol. 1 P. 275

J. Disposal is made as follows:

At the end of each month the original and duplicate copies are forwarded to the D.A.G. 2d Echelon. At the end of 3 months the triplicate copy is similarly disposed of.

VI. Orders

1. Unit orders are divided into two parts

a. Part 1 Orders — Will deal with training manoeuvres, parades and matters which do not affect a soldier's pay, service, or documents.

b. Part II Orders — Deal with matters which affect a soldier's pay, service or documents. Every circumstance which affects a soldier's service, or pay, will be published in Part II of orders immediately after its occurrence. When a soldier becomes eligible to draw a higher rate of pay, the fact will be published in Part II Orders. Any casualty affecting a soldier, who is temporarily attached to another unit will be published by the Officer commanding that unit in Part II of orders and a certified extract of such order will be forwarded to the Officer Commanding the unit to which the soldier belongs for publication in Part II of Orders of the soldier's unit.

Each issue of each part of orders will be numbered consecutively, commencing on the 1st of January of each year, and each item will be given a sub-number.

2. Standing Orders — An Officer commanding a station or body of troops may issue standing orders relating to his command. The object of Standing orders is to adapt existing regulations to local conditions and save repetition in Routine and operation Orders. They will relate only to such matters as are not provided for in Routine or other orders.

3. General Orders — Are orders promulgated and issued to the Canadian Army by orders of the Minister of National Defence.

4. Canadian Army Orders — (Applicable to Reserve Formations Units and Personnel) These are orders of National Defence Headquarters giving detailed instructions to the "Canadian Army" (Reserve). They can be changed or amended by a further order.

5.	Canadian Army Routine Orders	Canadian Army R.O. "(Applicable to Active Formations, Units and Personnel)" These are orders of National Defence Headquarters giving detailed instructions to the "Canadian Army" (Active).
6.	Canadian Army Routine Orders (Overseas)	Refer to Overseas forces.

PRECIS NO. 6

Documentation (Part II).

1. Medical Boards.

The Medical History of an Invalid (M.F.B. 227) is completed in all cases of serious illness or injury, in all cases where an individual's Medical Category is lowered, whenever sick leave or furlough is considered advisable, and on discharge from the service. These proceedings constitute a permanent record to be used for pension purposes during the lifetime of the member of the forces concerned.

Section 1-14 are written by the Officer bringing forward the case. These are reviewed by the Medical Board consisting of three Medical Officers who, after an examination of the invalid record their opinions in Section 15-17.

The Original copy of the Medical Board Form should be in ink, and three typewritten copies made from it.

Army Categories

	Standard	Area and Units in which this Category man may normally be employed.
A	See to shoot or drive. Can undergo severe strain without defects of locomotion with only minor non-progressive disability.	Any area in a theatre of war.
B	See to shoot or drive. Can undergo considerable exertion, not involving severe strain. Able to march 5 miles with moderate non-progressive disabilities.	Lines of Communication, Base or Garrison. Duty at home or abroad except infantry Units. In all units if employed on sedentary work as clerks, cooks, batmen, orderlies, sanitary duties, storemen, at skilled tradesmen employed at their trade Railway troops.
B2	See to shoot or drive. Able to walk 5 miles with moderate non-progressive disabilities. Able to hear sufficiently for ordinary purposes.	Base duty at home or abroad Forestry Battalions.
C1	Men free from serious organic disease and able to stand home service conditions. Able to walk 5 miles.	Service in Canada only. Guards for vulnerable points. Guards in internment camps. If already overseas may remain for Base duties.
C2	Man able to stand work of a sedentary nature at home.	Service in Canada only as clerks, batmen, cooks, orderlies, storemen. If already overseas may remain in duties as above.

D	Temporarily Unfit	This category not to be used by Medical Boards examaning recruits for enlistment.
E	Unfit. Soldiers undergoing treatment and not likely to be fit in 6 months.	Recruits in this category are not to be enlisted. Serving soldiers placed in this category are to be discharged.

Copy of M.F.B. 227.

MEDICAL HISTORY OF AN INVALID

Instructions to Medical Officers

1. In using this Form, Medical Officers will be guided by instructions issued at N.D.H.Q.
2. This Form will be used for all ranks, at home and abroad, when change in Category or discharge from His Majesty's Force is contemplated.
3. All sections must be answered in full.
4. A definite diagnosis of all diseases or injuries recorded must be made, and the "Standard Morbidity Code for Canada" must be followed.
5. The Medical Officer in charge of the case is responsible for completion of pages 1, 2 and 3. The President and Members of the Medical Board are responsible for the completion of page 4.

Station..... Date.....

1. (a) Unit.....(b) Regimental No.....(c) Rank..

(d) Surname.....(e) Christian Names.....
(use Block letters)

(f) Home address.....

(g) Next of Kin.....(h) Relationship.....

(i) Address of Next of Kin.....

2. Age last birthday.....Date of birth.....

3. Enlistment, or Appointment: (a) Place.....(b) Date.....

(c) Category on enlistment.....(d) If lower than A on enlistment, give reason.....

4. Personal description: (a) Height.....(b) Weight.....

(c) Complextion.....(d) Colour of hair.....(e) Colour of eyes.....

(f) Identification marks, scars, etc.....

5. Former civilian trade, profession or occupation.....

6. Service (The information should be secured from personal Military documents if available. If not, a statement from the member of the forces may be taken, and note made to that effect.

(a) Length of service, Years.....Days.....

(b) Periods of service.....

(Documentation Part 11 Contd.)

	FROM	TO
Former Wars.....		
War 1939 - Canada.....		
Abroad.....		
.....		
Canada on return from abroad.....		

7. Diseases or injuries with Code Nos.....
(To be filled in when examination has been completed)
.....

(a) Dates of origin.....

(b) Places of origin.....

(c) Causes.....

2

8. Present Condition - (a) Subjective.....
(In individual's own words)

.....

.....

.....

.....

.....

.....

(b) Objective (Before completing this section, the member of the forces should be stripped and subjected to a thorough physical examination. All defects, no matter how trivial, should be recorded. Specialists reports will be obtained when necessary to ensure a definite diagnosis.)

.....

.....

.....

.....

9. History (This section should contain a detailed history of the origin of all diseases and injuries described in Section 8. Date and places of treatment should be recorded, and if pre-enlistment in origin, the name and address of the attending Physician or institution, if available, should be included. Special care should be taken as to history in respect of injuries incurred during service. Copies of Medical case sheets D.P.N.H. Forms 100, and Consultant opinions should be attached.)

.....

.....

.....

.....

10. Were the diseases or injuries caused or aggravated: (a) By intemperance or improper conduct: or (b) by unreasonable refusal to accept treatment?.....

.....

11. What is the probable duration of the disease or injuries?

.....

12. If further treatment in hospital, convalescent home, etc. likely to be of material benefit?.....
(If the answer is "yes" state nature of treatment required and probable duration).....

13. Can the former civilian trade, profession or occupation be resumed?.....
(If not, briefly state why)
.....
.....

14. Recommendations.....
(This section should contain only the M.O.'s recommendation.....
as to treatment, convalescence, or reference to Medical Board.....
for categorization)
.....
.....
.....

.....
Medical Officer by whom the case is brought forward.

STATEMENT OF THE INVALID

(Sections 8 (a) and 9 are to be read to the member of the forces and either "satisfied" or "not satisfied" struck out."

I, the undersigned.....having heard the contents of Sections 8 (a) and 9 read, am satisfied (or not satisfied) with it. (If dissatisfied, statement should follow)

I complain in addition of.....
.....
.....

.....Rank
Signature of member of the Forces

OPINION OF THE MEDICAL BOARD

15. Does the Board concur with the preceding report? If not, give differing opinions with reasons.....

.....

16. It is certified that the invalid:
(a) Does require treatment (give nature of treatment required and probable duration.)

.....
(b) Does not require treatment.

Categories hereunder are defined for infomation only.

(1) NAVY -
A. General Service.
D. Temporarily unfit.
E. Unfit for Category A.

(2) ARMY
A. General service.
B1) B2) Service abroad (not general service)
C1) C2) Home service (Canada only)
D. Temporarily unfit.
E. Unfit for A,B,C.

(3) R.C.A.F.
A1B Fit for full flying and ground duties anywhere and under any conditions.
A1HBH Fit for full flying and ground duties in Canada.
A2B Fit for limited flying duties and all ground duties anywhere and under any conditions.
A2HBH Fit for limited flying duties and all ground duties in Canada.

(3) Cntd.

A3B - Air Crew (other than pilots) fit for their full flying duties and full ground duties anywhere and under any conditions.
A3HBH - Ditto but Canada only.
A4B Fit for passenger flying and full ground duties anywhere and under any conditions.
A4HBH - Ditto but Canada only.
ATB Unfit for flying temporarily but fit for full ground duties in Canada.
ATBH - Unfit for flying temporarily but fit for full ground duties in Canada.
APB - Permanently unfit for flying, fit for ground duties anywhere.
APBH - Ditto but only in Canada.
APBP - Unfit for any form of duty.

---

17. Recommendations of the Medical Board as to category, treatment or convalescence.
Category.....
.....President.
Place.....
Date..... .....)
.....)Members.
.....)

TO BE COMPLETED WHEN TREATMENT IS REFUSED

I, the undersigned.....understand the nature of the treatment recommended, and I refuse to accept it, for the following reasons..... .....
.....
Witness.....Signed.....
(Should the refusal appear unreasonable, or should he decline to sign the statement, the Board of Officers should so state.)
.....

Place..... .....President.

Date..... .....)
.....)Members.
.....)

APPROVED BY
.....
D.M.O. or P.M.O.

Date.....

APPROVED BY
.....
D.G.M.S. or D.M.S., R.C.A.F.

Date.....

General Notes:

1. The President is responsible for the proper completion of section 13 - 17. He is also responsible for completeness of the 227 as regards signatures, and for the transmission of the board to proper authorities.

2. Any attached reports must be included in all four copies of the board.

3. If there is doubt as to the exact categorization, refer to "Physical Standards and Instructions for the Examination of Recruits", 1940.

4. The board should not be influenced by other than medical factors in deciding a man's category.

5. Never leave a section blank. If the answer is nil or not applicable insert same.

6. Any alterations in the board must be initialled either by the medical officer who completed pages 1, 2 and 3, or the President of the Board for sections 15 - 17.

Disposal of the Board.

Three copies of the Medical Board are forwarded to the D.M.O. If he approves they are forwarded through the D.O.C. to N.D. H.Q. for approval or otherwise by the D.G.M.S. (a duty allotted to his A.M.D. 2 staff). If approved one copy is kept by the records branch and two copies returned to the District who keep one copy and return one to the unit for attaching to the M.F.M. 1 or 2 as the case may be.

Attestation Forms.

M.F.M. 1, Officer's Declaration Paper, and M.F.M.2, Attestation paper for other ranks, are forms that are completed on all personnel on entry to the C.A.S.F.

They are made out in triplicate. The original is forwarded through the District H.Q. to the Office in Charge of Records at N.D.H.Q. The duplicate and triplicate copies remain with the unit whilst in Canada, but on proceeding overseas the duplicate copy is forwarded to the Officer i/c of Records.

Page 1.

The regimental number is issued serially from a block of numbers allotted to each unit.

Questions 1 - 14 should be written out in full. Abbreviations or initials should not be used.

Page 2.

No special remarks. These entries are made by the Unit Orderly Room from time to time.

Page 3

Because the list of diseases in Part I is by no means complete, special inquiry should be made to make sure the candidate has never had any other disease that might be disabling. An inquiry should be made as to whether the candidate is receiving, or ever has received, a disability pension or gratuity. The answer should be recorded.

In Part II, identifying marks should be carefully recorded. These consist of scars, moles, or tattoos.

The standards required for physical fitness of members of the C.A.S.F. are as laid down in Physical Standards and Instructions for the Medical Examination of Recruits - 1940.

Results of urinalysis, reflexes, and auroscopic scrutiny are entered in Section 10. Officers are tested for color vision using Ishihara plates and the results recorded here.

The President and two members of the board sign in Part III. The President is responsible for its proper completion and the categorization of the recruit in accordance with the standard laid down.

Sample entries in the section at the bottom of Page 3 include:

1/10/39	X-Ray Chest Neg.	M.O. sig.
1/10/39		
8/10/39	T.A.B.	" "
15/10/39	3	
30/11/39	Tetanus Toxoid	" "
1/1/40	M.F.B. 227 Cat. "D"	" "
1/2/40	M.F.B. 227 Cat. "D"	" "

Page 4.

The back page of the form is reserved for a complete hospitalization record of the individual.

APPENDIX

When Medical Board proceedings are required in the case of discharge for reasons other than medical unfitness, (C.A.S.F. R.O. #37) all sections of form M.F.B. 227 should be completed and the M.O. completing Pages 1, 2, and 3 should note under Section 7 that discharge is being carried out for reasons other than medical unfitness. Medical Boards in such cases should categorize on physical condition only, regardless of the reason for discharge.

Attention is drawn to H.Q. R.O. #36, Para. #1, which is construed to mean that the approval of the D.M.O. is not required where members of the forces are being discharged for reasons other than medical unfitness. It is only necessary for the Medical Board to complete two copies of M.F.B. 227, which will be returned to the Commanding Officer of the unit concerned. However, when there is a change in Category, Medical Board proceedings should go through the usual channels.

ADMINISTRATION

Precis No. 7.

Appreciations and Orders in the Field

1. Appreciations

(a) Definition - An Appreciation is a Military Review of a situation. It is based on all available information and culminates in a statement of the measures recommended to meet it.

(b) Object - Medical Appreciations will be required by Commanders to assist them in formulating their own plan of action. It may in effect be considered a detailed Medical and Sanitary report and recommendation. It should be drawn up so logically, briefly, and exactly, that the Officer to whom it is submitted will:-

(i) Clearly understand what the Medical and Sanitary situations are.

(ii) Be satisfied that the proposed arrangements for the preservation of Health, and the collection, evacuation, distribution, and treatment, of the sick and wounded are sufficient and will operate satisfactorily.

(iii) Grasp at once the reasons for the recommendations made. Involved calculations necessary to support recommendations should not be included in the body of the report but be relegated to appendices for the sake of simplification and clarity.

(c) The form of an Appreciation:-

Appreciation by Major X R.C.A.M.C.
No. 4 Field Ambulance.

Place.....
Date.....

(1) The Object.

(i) The maintenance of the fighting strength of the troops by the prevention of disease.

(ii) The rapid collection, evacuation, and distribution of the sick and wounded from the area of operations, and their efficient medical and sugical treatment.

Note: Do not confuse the object with the objective.

(2) Considerations affecting the Attainment of the Object.

(i) The Strength of our Force.

(ii) The strength, equipment, armament, and morale of the enemy.

(iii) Nature of the campaign.

(iv) Communications as they affect evacuation.

(v) Considerations of Hygiene.

(vi) Consideration of Climate.

(vii) Expected numbers of sick (Calculations to be given as an appendix)

(viii) Expected numbers of wounded (Calculations in appendix)

(ix) Extra equipment required.

In appreciations for higher formations the following should be included:

(x) General Hospital accommodation required, including special categories.

(xi) Sites of Hospital Bases.

(xii) Non-Divisional and L of C Units required.

(xiii) Hospital Ships.

(xiv) Priority of Embarkation of Medical Units.

(xv) Auxiliary Services.

Always make a positive deduction from any factor considered.

(3) Courses open to Both Sides

While not always necessary in a Medical Appreciation, there may be occasions on which these courses may usefully be discussed.

(i) Courses open to us.

If necessary alternative methods of evacuation and their respective advantages may be considered. In the same way alternatives imposed by climatic conditions may be discussed.

ALWAYS REACH A DECISION TO THE BETTER OF ANY ALTERNATIVES BROUGHT FORWARD.

(ii) Courses open to the Enemy

The possibility of the use of gas by the enemy, or his ability to bomb back areas, will involve special arrangements. Armoured fighting vehicles may raid back areas so that protection for Medical Units may be necessary. Special protection will be necessary in uncivilized countries.

(iii) The Plan

This should be definite, clear, practical, and simple; and should develop logically from the fact contained in the first three sections of the Appreciation. Tabulation will ensure easy reading.

The plan falls naturally into two sections dealing with each of our two objects.

(i) Recommendations for the preservation of health of the troops and the prevention of disease.

(ii) Scheme for the collection, evacuation, and distribution of the sick and wounded, giving the disposition of all medical units.

2. Operation Orders.

(a) General Orders deal with all strategical and Tactical Operations. The object of an Operation Order is to bring about a course of action in accordance with the intentions of a commander, and with full co-operation between all arms and units.

(b) Forms of an Operation Order.

.....Division R.C.A.M.C. Operation Order No
.....Ref. Map Copy No.....
Date.....

(1) Information.

(a) About the enemy
Strength
Armament
Use of Gas
Habits

(b) About our own Forces
Intention of the Higher Command.
Estimation of Casualties.
Strength and Dispositions.

(c) Boundaries.

(2) Intention
As the intention is always to clear the battlefield of sick and wounded this paragraph is very short and concise in a Medical Operation Order. Methods of co-operation may be included.

(3) Method
This paragraph must be developed in logical sequence. Details of how units are to be disposed and their functions should be included.

(4) Administrative Arrangements.
These include instructions as to supplies of stretchers, blankets, medical stores, food, transport, routes of evacuation, traffic directions, and prisoners of war.

(5) Inter-Communication.
Location of Headquarters.
Reports and Returns.
Special Means of Communication.

Acknowledge
Signature
Name, Rank, Appointment, Formation or Unit.
Method of Issue.
Time of Issue.
Distribution List.

(Appreciations and Orders in the Field Contd.)

3. Operation Instructions

When it is necessary to place a subordinate Commander in a position in which he must act on his own judgement, a definite order is usually inappropriate, and an Operation Instruction will take place of an Order.

These instructions will give the subordinate commanders all available information likely to affect the performance of his task, and will state clearly the object to be obtained, but will leave to his discretion the methods of attainment. They should be sparingly issued.

Operation Instructions will usually be couched in less formal terms than orders. They are usually issued to the person concerned, personally. A copy, however, may be issued to other subordinate Commanders for their information.

4. Warning Orders

When detailed Operation Orders cannot be issued in sufficient time to enable the troops to make the necessary preparations, a Warning Order should be issued. This order is confined to such matters as will enable such necessary preparations to be made.

PRECIS NO. 8

Hospital Diets and Accounting

1. Rations Generally

Each Officer, Warrant Officer, Non-Commissioned Officer and man, not in receipt of a money allowance in lieu, shall be entitled to the following daily rations of food free of cost.

SCALES OF RATIONS, C.A.S.F.

STANDARD RATION		ALTERNATIVES		NUMBER OF ISSUES PER WEEK
Commodity	Quantity	Commodity	Quantity	AUTHORIZED
Beef	14 oz.	Mutton	14 oz.	1 Tuesdays
		Pork, fresh	14 oz.	Sundays.
		Preserved Meat	8 oz.	As desired
		Fish, fresh	12 oz.	
		or " frozen	6 oz.	
		or " canned	8 oz.	
		(other than shall fish) or Fish filleted		
		or Fish, dried	6 oz.	(fresh or smkd. 6 oz.
		or " filleted	6 oz.	or canned clams 6 oz.
		smoked)		or " lobster 2 oz.
				or " Crab 2 oz.
Bread, brown, or White 14 oz.		Flour	14 oz.	as desired
		Plus		
		Shortening	3 oz.	
		and Baking Powder	2. oz.	

Note: 14 oz. of biscuit may be issued in lieu of 14 oz. bread, but only in sufficient issues to keep an emergency ration on hand with a periodical turnover.

Bacon	3 oz.	Eggs	2 only	2 Sunday & Wed & Fri.
		Salt Pork	3 oz.	as desired
Cheese	1 oz.			
Rice	2 oz.	Rolled Wheat	2 oz.	as desired
		or		
		Cracked Wheat	2 oz.	"
		or		
		Rolled Oats	2 oz.	"
		or		
		Macroni	3 oz.	"
Jam	2 oz.	5 Raisins	2 oz.	1
		2 Corn Syrup	2 oz.	1
		3 Prunes	2 oz.	1
		6 Molasses	2 oz.	1
		4 Honey	2 oz.	1
Butter	2 oz.			

Milk, evaporated
Irradiated, Whole 5 oz. Milk fresh pasturized 10 oz. (up to 50% of Evaporated milk authorized as desired.)

Tea ¼ oz.
Coffee 1/3 oz. Two rations of Tea or two rations of Coffee in lieu of one ration of each as desired

or

STANDARD RATION		ALTERNATIVES		NUMBER OF ISSUES PER WEEK
Commodity	Quantity	Commodity	Quantity	AUTHORIZED
		Cocoa powder (in lieu of one ration of tea or one ration of coffee	¼ oz.	as desired
Fresh Potatoes	14 oz.			
fresh vegetables	8 oz.	Tomatoes	6 oz.	Compulsory issue twice per week (Tues & Friday)
Apples, raw	5 oz.			

Note: When raw apples are not obtainable any one of the following commodities may be issued in lieu thereof as shown:

Apples, Dried	½ oz.	As required
Canned Apple Pie filler	2½ oz.	1
Pumpkin, canned	3½ oz.	1

Peas, split 1/3 oz. Beans As required
Sugar, white Granulated 3 oz.
Salt, Iodized 1/4 oz.
Peper 1/72

----oOo----

2. It is usual for indents for rations to be forwarded to the Officer i/c Supplies from 24 to 48 hours in advance of the date and hours on which the rations are to be drawn, this is necessary in order to assist the Officer i/c Supplies to compile indents of the various units in camps, or quarters and to stock sufficient quantities of the various commodities to meet the number of demands from the units in the area.

3. Indents for rations are compiled on M.F.C. 552 every 24 hours for the total ration. Strength of the unit concerned, including Officers, Warrant Officers, Non-Commissioned Officers, and Men, but not including casualties who are absent from the unit, such as "Sick in Hospital, Absent with or without leave, prisoners in detention, personnel on command, etc."

4. The Quartermaster of the unit concerned will supply a party of one N.C.O. and two men to draw rations. On arrival at the Supply Depot, the N.C.O. will check the rations with the supply voucher, M.E.C. 783, and the rations will be loaded on the transport, supplied for this purpose, and delivered to the quartermaster stores of the unit, for distribution to the various kitchens. Those rations are to be rechecked into quartermaster stores by the N.C.O. drawing rations, and the R.Q.M.S.

(Hospital Diets and Accounting Contd.)

5. Supply Voucher M.F.C. 783 which are prepared by the Supply Depot and issued in duplicate will, on receipt by units, be disposed of in the following manner.

The quantities of commodities received will be entered in the monthly provision supply account M.F.C. 786 which is kept in duplicate and one copy of the Voucher M.F.C. 783, will be filed with each copy of this account. At the end of each month one copy of the completed monthly provision supply account with supporting vouchers duly completed will be forwarded to the Officer i/c supplies. The total number of rations drawn during the month should agree with the monthly certificate of rations issued, M.F.C. 522.

6. Quartermasters and other personnel who are responsible for the indenting of rations should do so with the utmost care, as rations overdrawn will be considered a debit against the unit concerned and will be made the subject of a charge by C.D.V. M.F.C. 871 against the O.C. the unit. On the other hand, all rations underdrawn will automatically revert back to the Department of National Defence.

7. The method of checking daily ration strengths is through Morning Parade State M.F.E. 242, and daily orders, Part II.

8. Rations are inspected daily by the Orderly Officer of the day on receipt from Supply Depot, and again after cooking, during meal hours.

9. Economic control of rations should be practised, and in this connection the attention of all personnel dealing with rations is directed to Routine Order, No. 151.

2. <u>Hospital Diets and Accounting</u>

(a) <u>Admission to Hospital</u>

(i) When patients are first admitted to hospital a clerk enters the full particulars in the admission and discharge book (M.B. 27). From this information the following forms are made out.

M.F.B. 326 Hospital Diet Sheet
M.F.B. 313 Medical History Sheet.
M.F.B. 388 Clinical Chart

(ii) These documents together from a complete record of the medical care of the patient while in hospital. They are passed to the Nursing Sister or N.C.O. in charge of the ward to which the patient has been admitted. The M.O. i/c ward examines the patient and prescribes a certain diet for consumption either in the ward or in the Dining Hall.

The first diet ordered will be prepared for consumption by the patient on the day of his admission or detention and first examination by the M.O. i/c if the ward. The Sister or N.C.O. then makes out M.B. 64 in duplicate showing the class of diet as ordered by the M.O., and forwards the original copy to the Quartermaster's Department (Steward's Store).

(iii) The patient turns in his kit to the Hospital Pack Store, and is issued with hospital clothing, the N.C.O. i/c of the stores fills in M.B. 65 (Patients' Personal Equipment Book), in duplicate. The entries show all clothing issued to the patient. The original is handed to the patiert and the duplicate kept by the storeman.

At the same time M.B. 78 is also filled out in duplicate showing what kit the patient has handed in to the stores and copies disposed of in a similar manner. Should the patient be too ill to hand it in himself, it is the duty of the Ward Orderly to see to this for him.

(b) System of Diets, and Accounting

(i) The duties of a hospital steward is a very important one, and every care should be taken in the receipt and expenditure of commodities which make up the hospital diets for patients. It should be ascertained that all articles of food are of the finest quality, and fresh at all times, and perishable articles should not be stocked in large quantities.

(ii) The hospital steward will demand from the Officer i/c Supplies or other source authorized by N.D.H.Q. from time to time as occasion requires sufficient amounts of commodities which go to make up the Diets ordered by the Medical Officers attending hospital cases. This will be done by filling in the amounts required on M. F.C. 552. If storage accommodation permits, non perishable may, insofar as it is practicable, be demanded in sufficient quantities to cover a period of two weeks.

(c) Diet Sheet Summary

(i) To begin each day for the issue of commodities for diets which are issuable to the hospital cook, the Steward must await the Diet Sheet Summary, M.B. 64 one copy from each ward. This is not forwarded to the Steward until after the morning rounds of the various medical officers attending hospital patients and so it is important that Nursing Sisters, or N. C.O. in charge of wards rush the above form to the Steward's department as soon as possible each morning. On receipt of this form from each ward the hospital Steward will compile M.F.C. 613 in duplicate, one copy of this form to be hung up in the main kitchen for use of the cook, the other to be retained by the Steward. As soon as this form is completed, the Steward will issue from Steward Stores all articles for diets and drinks, for the ensuing 24 hours.

(d) Diet Account of Provisions, M.F.C. 651

Immediately following the issue of commodities from the Steward Stores daily, the daily entry in account M.F.C. 651, Diet Account of Provisions will be completed. The daily abstract of Diets as ordered on M.F.C. 226 (Diet Sheets) folio 1, will be completed and signed by the O.C. Hospital daily. On the remainder of this form, folios 2 to 12 will be recorded all receipts and expenditures, from day to day during the month. This form is an Office record and is intended for retention in the Steward's Department.

(e) Scale of Diets

(i) Issues will be made to the patients admitted to military hospitals in accordance with the following scales according to the diet upon which each patient may be placed.

COMMODITIES	CLASS OF DIETS							
	Chicken (Not issuable in Dining Rooms)							
Beef	12	ounces			10	ounces	- twice a week	
Alternatives:								
Mutton	12	"			10	"		
Pork	12	"			10	"		
Fish - fresh	10	"	once a week		8	"	- once a week	
" frozen	10	"	"	" "	8	"	" " "	
" filleted	6	"	"	" "	4	"	" " "	
" salted	8	"	"	" "	6	"	" " "	
" dried	8	"	"	" "	6	"	" " "	
" canned	6	"	"	" "	4	"	" " "	
Chicken or turkey					12	"	- 5 times a week	
Bacon	3	"	- 4 times a week		3	"	- 4 times a week	
Alternatives:								
Beef Liver	4	"	- once a week		4	"	- once a week	
Sausages	4	"	- once a week		4	"	- once a week	
Tomatoes, fresh or canned	4	"			4	"		
Potatatoes	12	"			12	"		
Fresh vegetables	10	"			10	"		
(Vegetables in season - cabbage, carrots, turnips, spinach, onions, lettuce, celery, cauliflower, corn string-beans, peas, squash) Cabbage is restricted to Ordinary diet.								
Alternatives:								
Canned vegetables (Peas, string-beans, corn)	4	"			4	"		
Canned soups (for small hospitals only)	10½	oz. can- 3 diets						
Split peas	1½	"						
Alternatives:								
Dried Beans	½	"			½	"		
Lima Beans	½	"			½	"		
Barley	½	"			½	"		

(Hospital Diets and Accounting Contd.)

COMMODITIES	ORDINARY	CHICKEN
ROLLED Oats	1½ ounces	1½ ounces
Alternatives:		
Rolled or cracked wheat	1½ "	1½ "
or Bran flakes	1½ "	1½ "
" Corn flakes	1½ "	1½ "
" Shredded wheat	1½ "	1½ "
Bread (White or Brown)	8 "	8 "
Alternatives:		
(Flour	10 "	10 "
(Shortening or lard	3 "	3 "
(Baking powder	¼ "	¼ "
Tea	½ "	½ "
Coffee	½ "	½ "
Cocoa	½ "	½ "
Sugar, White Granulated	3 "	3 "
Alternatives:		
Sugar Brown	3 "	3 "
Sugar Icing	3 "	3 "
Milk - Irradiated, evaporated	15 "	15 "
Alternatives:		
15 oz. of fresh pasteurized milk, and) 7½ oz. of irradiated, evaporated milk) may be drawn	For ordinary and Chicken Diet	
Butter	2 "	2 "
Eggs	2 eggs	2 eggs
Cheese	1 ounce - once a week	½ ounce - once a week
Fresh fruit	6 ounces	6 ounces
(Fruits in season - apples, bananas, oranges)	Oranges may be drawn 3 times a week.	Oranges may be drawn 3 times a week
Alternatives:	4 ounces	4 ounces
Canned fruit (peaches, pears, plums, cherries, pineapple)	2 "	2 "
or Dried fruit (prunes)	1 "	1 "
" Raisins, apples, peaches	3 "	3 "
" Canned pumpkin		

(Hospital Diets and Accounting Contd.)

COMMODITIES	Ordinary	Chicken
Soda Biscuits	1 ounce	1 ounce
Alternatives:		
Oatmeal biscuits	1 "	1 "
Arrowroot biscuits	1 "	1 "
Ginger snaps	1 "	1 "
Social Teas	1 "	1 "
Rice	1 "	1 "
Alternatives:		
Cornstarch	1 "	1 "
Sage	1 "	1 "
Tapioca	1 "	1 "
Macaroni	2 "	2 "
Gelatine	-	½ "
Plain Ice Cream	-	3 " - 4 time a week
Jam or marmalade	1 "	-
Alternatives:		
Corn syrup	1 "	-
Molasses	1 "	-
Honey	1 "	-
Maple Syrup	1 "	-
Salt Iodized	½ "	½ "
Pepper	1/72 "	1/72 "
Vinegar	½ " - once a week	½ once a week
Vanilla extract	1/10" - " " "	1/10 " " " "
Lemon extract	1/30" " " "	1/30 " " " "
Baking Soda	1/8 " " " "	1/8 " " " "
Bayleaf	1/30" " " "	1/30 " " " "
Cinnamon	1/30" " " "	1/30 " " " "
Cloves	1/30" " " "	1/30 " " " "
Curry	1/30" " " "	1/30 " " " "
Ginger	1/30" " " "	1/30 " " " "
Mustard	1/30" " " "	1/30 " " " "
Nutmeg	1/30" " " "	1/30 " " " "
Sage	1/30" " " "	1/30 " " " "

(Hospital Diets and Accounting contd.)

Commodities

Beef or chicken (for making broth)	8 ounces
Alternative: for hospitals under 75 be s	
Bovril liquid	1 ounces
Or Oxo cubes	2 cubes
Tomatoes - fresh or canned	4 ounces
Fresh vegetables for puréed soups	5 "
Alternative:	
Canned vegetables for puréed soups	2 "
Barley for barley water	1/2 "
Rolled oats	1 "
Alternative:	
Farina	1 "
Bread	4 "
Tea	1/2 "
Cocoa	3/4 "
Alternative:	
Chocolate	3/4 "
Sugar, white granulated	5 "
Milk, fresh pasteurized	40 "
Alternative:	
(Milk	20 "
(and Cream	8 "
Butter	1 "
Eggs	2 eggs
Canned orange juice or grapefruit juice	8 Ounces
Alternative:	
Equivalent amount of juice from fresh oranges 3 times a week (4 oranges size 215 - 8 oz. juice)	3 " - 3 times a week
Lemons, fresh	8 " - twice a week
Gingerale, Dry	8 "
Alternative:	
Soda Water	8 "

Hospital Diets and Accounting Contd.)

LIGHT DIET (Contd)

Commodities	Scale
Soda Biscuits	1 ounce
Alternative:	
Oatmeal biscuits	1 ounce
Arrowroot biscuits	1 "
Ginger snaps	1 "
Social teas	1 "
Rice	1 "
Alternative:	
Cornstarch	1 "
Sago	1 "
Tapioca	1 "
Plain Ice Cream	3 " 4 times a week
Salt - Iodized	1 "
Vanilla Extract	1/10 ounces weekly
Nutmeg	1/30 ounces weekly

LIQUID DIET "A"

Beef or chicken - for making broth	8 ounces
Tomatoes, fresh or canned	8 "
Tea	1/2 "
Sugar, white granulated	5 "
Canned orange juice or grapefruit juice	16 "
Alternative:	
Fresh oranges for equivalent amount of juice	
3 time a week - 8 oranges size 216= 16 ounces	
Lemons - fresh	8 " - twice a week
Dry Gingerale	8 "
Alternative:	
Soda Water	8 "

(Hospital Diets and Accounting contd.)

LIQUID DIET "P"

Commodities	Scale
Beef or chicken - for making broth	8 ounces
Tomatoes, fresh or canned	2 "
Barley (for barley water)	½ "
Alternative:	
Arrowroot flour	1 "
Rolled oats - for gruel	1½ "
Tea	½ "
Cocoa	¾ "
Alternative:	
Chocolate	3 "
Sugar, white granulated	5 "
Milk, fresh, pasteurized	40 "
Alternative:	
(Milk 20 oz. and Cream 8 oz.)	
Eggs	2 eggs
Canned orange juice or grapefruit juice	16 ounces
Alternative:	
Fresh oranges for equivalent amount of juice....	
3 times a week - 8 oranges size 216 - 16 ounces.	
Lemons - fresh	8 " twice a week
Gingerale Dry	8 "
Alternative:	
Soda Water	8 "
Soda biscuits, unsalted	3 "

Ice - as required for preservation of food. All diets.

For special cases articles not specified in the hospital diets may be issued if considered necessary by the Medical Officer and approved by the Officer Commanding the Hospital.

Medical Officers will be held responsible for all extras in their diet sheets and may be called upon to record, on the back of the diet sheets, the reasons which seem to them to justify the necessity for the issue of articles ordered by them in any particular case.

(ii) Practically every condition which will be encountered with patients can be handled from the dietary standpoint from these diet lists. It is possible that a occasional serious condition can not be handled permanently from the five diet lists but would be a rarity and if this occurs the Medical Officer may ob as shown special foods as a "special" therapeutic measure.

(iii) Soldiers should not bring with them the rations which have been drawn regimentally as they will be dieted for the day under Hospital arrangements.

When considered necessary by the District Medical Officer, personnel of Military Hospitals may be subsisted in Hospital under the scale as laid down in Hospital Diets under "Ordinary Diets."

(v) All supplies required for Hospital Diets will be obtained by the R.C.A.M.C. by indent from the R.C.A.S.C.

(f) Abstract of Monthly Diet Account, M.F.B. 652.

At the beginning of each month, a monthly return of diets consumed by patients during the previous month, showing the total amount of commodities received, total expenditures, balance on hand from previous account, will be compiled on M.F.C. 652. This Return is an abstract of the details of Receipts and Issues in Diet Account M.F.C. 651 with a summary on page 2 of the total number of Diets issued during the month in accordance with the Classified Diets as authorized by G.O. No. 270, 23rd, November, 1940. Accounts and vouchers covering all Receipts should be attached to the Return, and the total receipts and issues should check with the relative totals as shown on M.F.C. 651. Balances on hand should be verified and carried forward in the next monthly return. The Return as completed is to be forwarded to the D.S.

Accounting for Medical Stores, and Technical Medical Equipment.

(a) Source of Medical Supplies.

The source of supply of medical stores, and technical medical equipment is through the Director General of Medical Services at National Defence Headquarters.
The Department of National Defence maintains a District Medical Stores in each Military District, and a Central Medical Stores at Ottawa.

All items of medical stores, and technical medical equipment are supplied to District Medical Stores, through Central Medical Stores at Ottawa, which is the master-link for the chain of district stores. The method of obtaining medical stores by Districts is by semi-annual demand on M.F.C. 615, in triplicate on April 1st and October 1st, also by intermediate demands when special articles, drugs, instruments, etc., are urgently required. The intermediate demand must be accompanied by a covering letter setting forth the reasons for the demand.

(b) Responsibility for Central Medical Stores.

The Officer i/c Central Medical Stores at Ottawa, will be responsible for the management, maintenance, and account to the D.G.M.S. with whom he will communicate direct on all matters concerning them.

(c) Responsibility for District Medical Stores.

Officers i/c District Medical Stores will act under the orders of the District Medical Officer, to whom they will be responsible for custody, expenditure, and account of all stores.

(d) Transactions.

All transactions must be recorded in the medical stores ledger, M.F.C. 672 by receipt and issue, vouchers. These vouchers must be numbered consecutively, and compiled by sections alphabetically. These vouchers are to be kept on file in numerical order, and are to be produced at all boards of survey, and will accompany the stores ledger account when forwarded to audit .

(e) Closing of Accounts.

Medical stores ledger accounts are closed at the end of each fiscal year, which with the department of National Defence is March 31st each year. New accounts are opened on 1st April, and all balances remaining in the old account, are transferred in the state of the new account.

(f) Return of Surplus Stores.

Officers i/c District Medical Stores, Military Hospitals, Reception Stations, and other medical units will submit to the D.M.O. as soon as practicable after 31st. March in each year a list of all articles, drugs, etc., held on charge, whether in a serviceable or repairable condition, which are considered surplus to requirements. The D.M.O. will forward one copy to the D.G.M.S. for disposal of surplus stores.

(g) Local Purchase.

Articles of medicine, surgical materials, etc., can be purchased locally with the authority of the D.M.O. Such purchases to be made only in extreme cases of urgency.

(h) Accounting for Local Purchases.

Such local purchases will be accounted for in the stores ledger by certificate receipt voucher, also in the periodical returns of medicines, the bills will be duly certified, give an account of the certificate receipt voucher number by which they were taken into ledger account, they will then be forwarded to the District Treasury Officer for payment in triplicate, and one copy forwarded to the Officer i/c Central Medical Stores.

(Hospital Diets and Accounting Contd.)

(i) Boards of Survey

A Board of Survey on medical stores which are found unserviceable during the year, will be held at the time of closing the ledger account. These boards shall include one medical officer, not necessarily the president. Accounting officers are not to be detailed as president or member of the board. When articles are recommended to be destroyed by boards of survey, the destruction will be carried out in the presence of an Officer after the findings have been approved by the D.G.M.S. and the following certificate will accompany the return in which the articles are written off.

"Certified that the above mentioned articles have been destroyed beyond the possibility of further use, in my presence."

(j) Repairable Articles

Articles that could be repaired, when their value warrants the expense, will be sent to the Central Medical Stores, accompanied by an invoice in triplicate. (List of contents must be enclosed with all composite parts.)

(k) Issues of Field Medical Equipment

Medical equipment may be issued to C.A.S.F. units on the scale as laid down for such units in Appendix xvii&xviii. Instruction for the R.C.A.M.C. and the C.A.D.C. 1937. Any extra medical equipment required may be issued on loan at the discretion of the D.M.O. of the District. Inspections of the above medical equipment will be carried out periodically by the D.M.O. of the District.

ADMINISTRATION

PRECIS NO. 9

Messes and Institutes

1. Definitions

Canteen

A canteen may include a dry canteen, a coffee bar, or a wet canteen. While the same general rules as to control and management apply to all branches, the rules as to conduct may differ to some extent.

Wet Canteen

Means a place under Military or Air Force control and administration, wherein the sale and consumption of all, stout and beer or other authorized beverages are permitted, subject however, to the Liquor Control Acts, and regulations of the Province in which such wet canteen is situated.

Dry Canteen

Means the place where various commodities including groceries, non-alcoholic beverages, etc., are sold.

Canteen Funds

Includes the funds derived from the operation of both wet and dry canteens and the coffee bar.

Garrison, Station, Regimental or Service Institute

Means all canteens, coffee or refreshment bars or shops, recreation rooms, libraries, barber shops, conducted for the convenience, comfort, and in behalf of members of the unit.

Library (or Libraries)

Means a place where a supply of books, magazines and other publications is maintained for the use of the members of the unit and where such members may be accommodated for reading and writing.

Mess

Includes Officers, N.C.O.'s, Sergeants' and Mens' Mess.

P.R.I.

Means the President, Regimental Institute.

Recreation Room

Means the place usually furnished with billiard tables or bagatelle tables, dominoes, checkers, chess and similar games, for the entertainment of the men.

Refuse

Means waste paper and the swill, garbage or leavings, or remainder of non-consumable food from unit sources.

Regimental or Unit Fund

Means the fund or account to which is credited all sums received and applied, for the general benefit of the unit as a whole. It is administered by the Regimental or Service Committee subject to the direction of the Officers in meeting assembled, and with the approval of the Commanding Officer.

2. Regimental Institutes Generally

The Commanding Officer is responsible for the proper management of all institutes operated within his command. This responsibility is in no way lessened by the fact that a committee has been appointed to audit its accounts.

In a small garrison composed of a number of detachments of units and services, it is preferable that a garrison institute be established rather than a collection of detachment institutes.

The sale of malt liquors and wine may only be permitted in localities where such sale is sanctioned by law and only upon permission being received from National Defence Headquarters in each case.

The hours during which the different regimental or service institutes are allowed to remain open, the number of men to be employed, and their hours of employment will be fixed by the commanding officer and published in orders. If any remuneration for those employed is granted, the rate will be fixed by the commanding officer on advice of the committee, and will be paid from funds of the institute concerned.

The employees of an institute must be soldiers or airmen on the strength of the unit or garrison except where otherwise specially authorized the D.O.C. concerned.

Officers, soldiers, airmen and others in military employment must be scrupulously careful in their relations with merchants, their agents or employees. They will govern their conduct so as to ensure that they are at all times above suspicion of being influenced in their dealings with these purveyors.

Quartermasters, Stores or Accountant Officers and Paymasters, on account of their duties will be exempt from presiding over committees of management of the mess, band, institute or other regimental or unit funds. They will also be exempt from being placed in custody of monies of any of these funds.

The value of all mess and institute property will be insured against loss by fire, smoke and water and the cost of the premium for such protection made a charge against the funds of the institute concerned. No property of the Department of National Defence issued to such institute is to be included in such insurance policy. The insurance policy will be deposited in a place of safe keeping selected by the C.O. The policy and premium receipt will be produced to the audit board, who will verify that the policy is effective, and so record in the board's proceedings.

Casualty insurance against loss by theft, burglary, etc., is recommended for consideration of all committees.

No remuneration will be given in respect of services as a member of any committee

Loans will not be made from regimental or unit funds, except where a fund is specially maintained for this purpose by the authority of the D.O.C.

All monies will be deposited in bank accounts, opened in chartered banks in the name of the unit concerned.

All cash takings will be deposited in a chartered bank at least once a week. Withdrawals therefrom will be made by cheque requiring the signature of two officers.

The principle of having as few bank accounts as possible in a unit should be adopted. The main bank accounts are:

Officers' Mess Fund
Sergeants' " "
Band Fund
Canteen Account
P.R.I. Central Bank Account.

The P.R.I. (or in the case of small units, the Treasurer of the Regimental Committee) will receive monies due to the smaller accounts, such as Regimental Funds, Regimental or Service Institute and Sports' Fund, etc., and make all disbursements necessary for such accounts, by P.R.I. cheques. In this way, control of funds is facilitated, the P.R.I. (or Treasurer of the Regimental Committee) Central Bank Account becoming the "control account".

Undue accumulations of cash are to be avoided.

The sale of goods by hawkers and peddlers in barracks or camps will not be permitted unless authorized by the written permission of the commanding officer.

3. Messes Generally

The management of Officers' and Sergeants' messes will be carried out in accordance with instructions laid down in K.R. & O. 1939, paras. 998 - 1035.

An inspection report on each station or garrison mess will be submitted to N.D.H.Q. by District Officers Commanding, on the 31st of December of each year.

Messes which require stewards must make their own arrangements for such service.

The sale of spirits, wines or malt liquors in any mess to any person not a member or honorary member of such mess is prohibited.

The mess must not be regarded as a debt collecting agency for tailors', shoemakers', or other bills.

4. Officers' Messes

Paras. 26 - 33 of Rules for the Management of Messes and Institutes, Canadian Militia and R.C.A.F., 1938 and Paras. 998 to 1035 in King's Regulations and Orders, 1939 has to do with Officers' Mess and should be read. The following are some of the points mentioned in connection with the management of messes.

(a) Every officer will personally pay to the mess president his mess bill and all authorized subscriptions on or before the 7th of each month, and the secretary of the mess committee will report in writing to the officer commanding any omission to do so. The officer concerned will then be called upon for an explanation. If the result be unsatisfactory and the account is not settled by the 15th of the month the circumstances will be reported to the District Officer Commanding.

(b) A commanding Officer will be responsible for ensuring that the daily expense of messing is kept within the means of the officers and that the consumption of alcoholic beverages does not exceed reasonable limits.

(c) An Officer will not absent himself from Mess dinner, unless he has duly warned out.

(d) Officers are permitted to drink the King's health in water or other non-alcoholic beverages.

(e) K.R. & O. (Can) paras. 1015 to 1034 inclusive show charges permissable to officers for the maintenance of Messes.

5. Sergeants' Messes

C.O. is responsible that Sergeants' Mess is conducted with economy, regularity and order. Mess rules are to be drawn up and submitted for approval of C.O.

The senior W.O or N.C.O present is responsible for good order and observation of the rules of the mess.

Mess meetings are held monthly, minutes taken and submitted for approval of C.O.

Mess President will not be below the rank of Warrant Officer, Class II

Messes must conform to the laws of the province in which they are situated with regard to the sale of alcoholic beverages.

The privilege of honorary membership of a Sgts' Mess may be accorded at the discretion of the C.O. to members or honorary members of other units and to ex-members of any Sgts. Mess, also where special circumstances exist, to responsible civilians who have associations with the regiment, but in general practice, a civilian may only be admitted to a Sgts Mess as a guest, when accompanied by a member of such mess who will be responsible for him.

The senior Warrant Officer is always chairman and President of the Sergeants' Mess. However, the undermentioned warrant officers will not act either as President of the Sergeants' mess committee or Treasurer of a Sergeants' Mess.

Regimental Sergeant Major,
Bandmaster,
Regimental Quartermaster Sergeant

The management of the mess will be conducted by a committee composed of a president who shall not be below the rank of Warrant Officer, Class II, and two members (one married and one unmarried). They will be appointed quarterly at a mess meeting, subject to the approval of the commanding officer.

They are responsible for the management of the mess and have the power to authorize all ordinary expenditure, but not exceptional outlay will be made without the previous sanction of a mess meeting and the approval of the commanding officer.

6. Canteen

When local circumstances permit, central or garrison canteens are preferable to unit canteens. Such a canteen will be administered by a committee appointed by the senior Militia or Air Force Officer in command of the station, garrison or camp, with a representative from each unit on such committee.

Canteens are for the exclusive benefit and convenience of the troops and airmen. The objects of such are: To supply personnel with good articles at reasonable prices without in any way interfering with their rights to resort to any other available shops or markets.

Civilians are not to be permitted to conduct or manage a canteen or grocery bar, or to have any interest in them, directly or indirectly.

Profits may be expended on improving the amenities of institutes, or may be applied to any object which collectively benefits the soldier or airman, such as sports, entertainments, pianos, billiard tables, radios, games, concerts, stationery, newspapers and the like and on grants in aid of messing.

Profits will not be applied to any of the following purposes:

Provision of harmoniums and organs, church decorations or anything connected with religious services.

Charities or institutions of any kind (except such as are established for the benefit of the soldiers or airmen or their families whilst serving in or on leaving the service.)

Orderly rooms or office furniture.

Rubber stamps other than for canteen purposes.

Loans to Officers' or Sergeants' messes.

Disallowances by the paymaster.

Barrack damages.

Anything that will relieve officers or other ranks of their personal responsibility for the irregular expenditures of stores or public funds.

When a unit or detachment, temporarily at a station, is permitted to use the institute or canteen of another unit, corps or service, the detachment while so situated may participate in any expenditure of funds thereof authorized for the benefit of the troops, but it is not entitled to claim any separate share of the funds by reason of such permission.

Corps, units or detachments which, for any reason, have no institute or canteen of their own, and, consequently by agreement have permanent dealings with the canteen or another corps at the same station, will, during the period of such arrangement, receive a proportion of the profits realized by such canteen. The division of profits will be made not less frequently than every month, the share of each unit being calculated either on the period during which it has used the canteen and its average numbers for that period by the amount of business transacted by each unit.

Officers, soldiers and airmen, and their families and servants only, are permitted to purchase articles at any branch of the canteen. Permanently engaged civilian employees of the Department of National Defence in camps or garrisons, and temporary employees engaged for the duration of a camp, subject to the approval of the D.O.C. in both cases, may be permitted to make purchases in canteens. Officers Commanding will provide the canteens or Institute concerned with a list of the names of all persons who are permitted to make purchases. This list will be amended monthly.

Persons entitled to deal at canteens are prohibited from purchasing, or being concerned in the pruchase of articles for the benefit or, on the behalf of persons not permitted to deal at the canteen.

The C.O. may permit soldiers or airmen to introduce male friends into the institute, on condition that they leave barracks or camp on the sounding of "first post". The soldier who introduces a friend will be responsible for his good behaviour. The C.O. may excludes any individual at any time.

Officers commanding will decide the hours during which the wet canteen may be kept open, but in no case is it to be open during the hours of divine service on Sundays.

In provinces where the law permits, and where the sale of malt liquor has been authorized in canteens, the commanding officer is responsible that the sale is properly regulated.

The sale of malt liquor in canteens is permitted when not contrary to the laws of the province or municipality. The sale in any canteen of any class of liquor which is not permitted to be sold therein will result in the immediate cancellation of the permission granted to such canteen.

In addition, the sale of malt liquor by the bottle for consumption outside of such canteen is expressly prohibited except as provided in K.R. (Can) 1939.

The sale of malt liquor is permitted only to naval, military and Air Force personnel authorized by the King's Regu ations to purchase articles at such canteens.

Boys will not be permitted to use the wet canteen.

A Canteen Committee of not less than three officers if possible will be appointed by the Commanding Officer ((in case of a Station or Garrison canteen by the D.O.C. under whose orders they will act.

The P.R.I. will be president of this committee.

(i) A sub-committee of not less than three shall be elected annually from among the corporals, privates or airmen of the unit having a canteen.

(ii) At stations comprising more than one company, etc., or school, the selections shall be representative of each such formation. The members of the sub-committee shall be elected by their comrades of each respective formation.

(iii) In the case of small stations when the C.O. considers it not feasible that both a committee and a sub-committee be formed, it shall be permissible for a committee only to be formed. Such committee shall consist of one officer (other than the C.O.) detailed by the C.O. and three other ranks (one of whom shall be a corporal) elected by the members of their unit. No one above the rank of corporal shall be eligible to vote at such election.

(iv) In the case of the Dry Canteen, N.D.H.Q., the sub-committee will consist of warrant officers, non-commissioned officers or men, to represent branches of the Naval, Militia and Air Forces as may be decided upon from time to time.

The Canteen Committee shall see that canteen takings are deposited in a chartered bank daily, so far as possible; that all payments are made by cheque, and that cheques are signed by two of the Canteen committee. In the unavoidable absence of two members at one time, arrangements may be made with the bank to accept as a second signature, that of the C.O. or the Adjutant.

Cheques will not be cashed for officers or other persons except with the sanction of the committee.

The committee must see that the accountant in charge of the accounts has proper files on which to keep the invoices and delivery slips. He will also be furnished with a Deed Box in which he can keep these records under lock and key. The canteen steward who will sign his name to each voucher as seen as he has ascertained that delivery has been correctly made.

It will also be checked by the canteen accountant who will see that the correct prices have been charged.

Delivery slips will be filed alphabetically and kept to check against invoices when these are not received with the goods.

Meetings of the canteen committee will be held not later than the fifteenth day of each month. At this meeting all accounts for the preceding month will be submitted for approval and payment authorized.

When the fifteenth day of any month falls on a Saturday, Sunday or holiday, the meeting is to be held on the first available date thereafter.

On the appointment of a new committee, or a new president, an Audit Board will be appointed by the C.O. (of which the outgoing and incoming committee presidents will form part) to examine the accounts of the institute.

A minute that this has been done will be inserted in the minutes of the next meeting of the committee.

The proceedings will be retained by the C.O. for subsequent reference if necessary.

The accounts and business books of the canteen will be kept by an accountant selected by the committee from among the troops at the station, and approved by the C.O. The accountant will be required to perform his ordinary military duties, but whenever the C.O. considers it necessary, he may be excused attendance at ordinary parades.

A canteen steward will be appointed by the C.O. He is in no way to be regarded as the manager of the canteen, but only as the assistant of the committee and as head salesman, charged with duties of receiving the goods ordered by the committee and dispensing and account for the same under the rules and directions laid down by the committee.

The scale of prices of articles to be sold in a canteen will be prepared by the committee and submitted to the C.O. for approval, each month.

Current price-lists will be posted up in the canteen in a place where they may be seen by all ranks.

Harmless drugs and simple medicines approved by the Medical Officer may be sold.

Tobacco must not be sold to a boy under sixteen years, whether for his own use or not.

Local Inspectors of weights and measures are to be given access to all premises for the purpose of carrying out the provisions of the law relating to inspection of weights and measures. They will be accompanied by a representative of the C.O.

Sales will be checked periodically for accuracy.

All purchases of supplies for a canteen shall be under the immediate supervision of the president of the committee. All orders for supplies must be in writing and such orders signed by one of the officers of the canteen committee.

Before any dealing is commenced with any merchant, firm or agent, the name of such merchant, firm or agent is to be first submitted to the C.O. for approval. When approved, a letter will be sent to the merchant, firm or agent, advising him not to deliver any goods to the canteen concerned without a written order made out on the official order form, signed by one of the officers of the committee, whose names will also be supplied. A specimen of the order form will accompany the letter.

All purchases are to be procured at the best prices consistent with good quality, and retailed at a moderate profit on the cost price.

The stock of the canteen should be kept as low as possible, having regard to local conditions and with respect to the procuring of supplies in large quantities at cheaper prices.

7. Canteen Books and Records

A suitable double-entry system of accounting is to be installed. The system employed must be satisfactory to the D.O.C. or N.D.H.Q. as applicable, and should conform as closely as possible to the method described below for canteens.

(a) Order Book

An order shall be made out for all goods purchased, a carbon copy of which will be retained in the book. As the invoices for goods are received the items on carbon copies in the Order Book will be checked off against stock receipts. Any carbon copies not checked off at the end of the month will represent liabilities contracted for which invoices have not been received. The canteen steward will then take steps to obtain the missing invoices without delay, so that they may be entered in the Stock Book. Any changes in quantities or prices after the order has been given must be noted on the carbon copy and all orders must be signed by an officer of the Committee.

(b) Daily Stock Book

In the Daily Stock Book will be entered each day the stock received from the wholesale merchants at cost price.

(c) Steward's Cash Book

All cash received from the canteen steward will be entered in this book. The key of the cash register will be kept by an Officer detailed by the C.O. who will open the register in the canteen at a convenient hour daily. The reading of the cash register and the cash in the drawer should agree. If they do not agree, the canteen steward should be required to explain the reason for the difference.

Any difference not readily explained, or of any material amounts should be immediately reported to the C.O. for investigation. All cash takings will be deposited in the chartered bank on the following day if possible.

(d) Cash Book

On the left hand side will be entered the cash sales as ascertained from the Steward's Cash Book.

Receipts from any other source other than sales will also be entered in this book and the particulars noted under "Received from" with amounts in the proper column.

All receipts are to be deposited daily, if possible, in a chartered bank, and carbon copies of deposit slips showing how deposit is made up will be kept on file.

On the right hand side, all cheques issued will be entered.

(e) Ledger

To each firm with whom a canteen deals a page of the ledger should be allotted, and all purchases from or payments to that firm should be noted therein. The state of indebtedness of the canteen to any particular firm can then be ascertained quickly. This book will be balanced at the end of each month.

A summary should be made at the end of each month showing the total purchases for the month.

(f) Monthly Stock Sheet

This sheet will be prepared and will contain a complete statement of the stock purchases during the month at cost price, together with the stock remaing over from the previous month. Another column shows the stock on hand on the last day of the month. The following certificate should appear at the end of each month's stock taking and will be signed by the member of the canteen committee and also by the canteen steward.

"I hereby certify that I was present at stock-taking on..... day of..... and that the above list of articles is a true and correct statement of the goods on hand in the..... canteen as at that date, priced at cost.

.....
Member of Canteen Committee

.....
Canteen Steward

By deducting quantities shown in Column 7 from the quantities shown in Column 6, the balance will represent the actual quantities sold. (column 10)

(g) Abstract of Receipts and Expenditures

A duly audited financial report of the canteen for the preceding month must be forwarded to District Headquarters or N.D.H.Q. as applicable by the 16th of each month. Copies of such reports will be submitted to the unit audit board when assembled and will be attached to the proceedings of the board.

(h) Minute Book

The proceedings of all meetings of the Canteen Committee shall be recorded in a Minute Book in detail. The proceedings should be signed by the President and Secretary of the committee and submitted to the C.O. immediately after each meeting for approval. The book is to be kept by the secretary of the committee.

(i) Credit Sales Book

A page in a Credit Sales ledger will be allotted to every person allowed to deal with the canteen on credit. This must be balanced monthly and bills rendered on the 3rd of each month and paid by the 7th.

NOTE: C.O. 26 of 1940 amends "Rules for Management of Messes and Institutes, Canadian Militia and Royal Canadian Air Force 1938" and the Ticket System formerly used is cancelled and officers commanding units will be held responsible that canteens etc., are operated on a cash basis.

8. Regimental or Unit Funds

Where a regimental or unit fund is maintained, it will be administered by the Regimental or Service Institute Committee.

A C.O. is responsible for the proper application of all regimental or unit funds and will supervise and control the committees formed for their management.

A Minute Book will be kept by the Secretary of the Regimental Committee, in which will be recorded the proceedings of all meetings of the committee. After each meeting, the minutes, when written up, will be signed by the president and secretary and submitted to the C.O. for approval.

All disbursements from this fund (which will be made by cheque on bank account, signed by two officers, one of whom shall be the C.O.) should be first authorized by the committee and this fact recorded in detail in the minutes.

Voluntary donations made by friends of a unit for a special purpose are to be credited to a special account, deposited in a chartered bank, and only used for the purpose for which donated. Donations and contributions should be officially acknowledged as received, and should also be recorded in the minutes.

The Regimental (or Unit) Fund account will be kept in a chartered bank as Regimental (or Unit) Fund of.....(name of u it to be inserted), and in no case kept as a personal or trust account of any of the officers. A carbon copy of all deposit slips should be kept on file for audit purposes.

All cheques will be signed by one member of the Regimental Committee, and countersigned by the C.O.

The following books will be kept:

1. Cash Book.
2. Ledger.
3. Minute Book.

Pay deducted from the men of any unit, with their consent, for the benefit of regimental or unit funds, is to be used only for the purpose for which it is deducted. Any monies recovered through pay lists under regimental or unit charges will be paid over to the accounts concerned.

A copy of each unit's quarterly audit board is to be submitted by all P.F. units and detachments to District H.Q. or N.D.H.Q. as applicable by the 16th of the month following the end of the quarter covered by the audit.

9. Refuse Fund

The proceeds of the sales of all by-products and refuse from cooking of issued rations and waste paper will be deposited monthly to the credit of the Receiver-General of Canada in accordance with the procedure prescribed in K. R. & O. 1939 and accounted for through the regimental or unit funds account of the unit concerned. If bins are required for the storage of refuse they must be sanitary and should be supplied by the purchaser of the refuse.

The amounts deposited above will be reimbursed to units. Stable Allowance, Barber Shop Fund, Library grant, Military Rifle Association Funds and N.F.A.M. Funds are described in the "Rules for the Management of Messes and Institutes Canadian Militia and Royal Canadian Air Force 1938."

10. Audit of Regimental Funds

a. A C.O. is responsible for the proper application of regimental funds. He will supervise and control the committee formed for their management.

b. An audit of regimental funds of a unit is to be carried out once a month.

c. An audit will be carried out also on a change of command.

d. The audit board is assembled by command of the C.O. and consists of the next three senior officers present.

e. The accounts of the Officers' Mess, band, Sergeants' Mess, Regimental Institute, Workshops and all sports and other funds will be laid before the audit board.

f. The board will ascertain that the credit balance as shown is correct and that it is available as liquid assets.

g. The C.O. is responsible personally that a statement is obtained from the bank as for the last day of the period to be audited for each account. This certificate is handed to the audit board to assist in its check and is subsequently attached to the proceedings.